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THE DEAF-MUTE POPULATION OF THE UNITED STATES

1920

A STATISTICAL ANALYSIS OF THE DATA OBTAINED AT THE FOURTEENTH DECENNIAL CENSUS

DEPARTMENT
OF COMMERCE

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LETTER OF TRANSMITTAL

Department of Commerce,
Bureau of the Census,
Washington, D. C., May 18, 1927.

Sir:

I transmit herewith a report on deaf-mutes, which consists chiefly in a study and analysis of statistics compiled in connection with the census of 1920.

The 1920 statistics which formed the basis of this report were published in 1922 in a bulletin entitled "Deaf-mutes in the United States: 1920." This earlier publication contained no tables of ratios or percentages, but included many detailed statistics which are here presented only in summary form.

The present report was prepared under the supervision of Dr. Joseph A. Hill, assistant to the Director of the Census, and Mr. Leon E. Truesdell, chief statistician for population. The text analysis was written by Dr. Harry Best, professor of sociology at the University of Kentucky. The statistical tables were largely prepared under the direction of Mr. Bennet Mead, expert special agent.

Acknowledgment is also made of the helpful criticism of proofs of the report by Dr. Percival Hall, president of Gallaudet College for the Deaf, and by Prof. Irving Fusfeld, editor of "American Annals of the Deaf."

Respectfully,

W. M. Steuart,
Director of the Census.

Hon. Herbert Hoover,
Secretary of Commerce.

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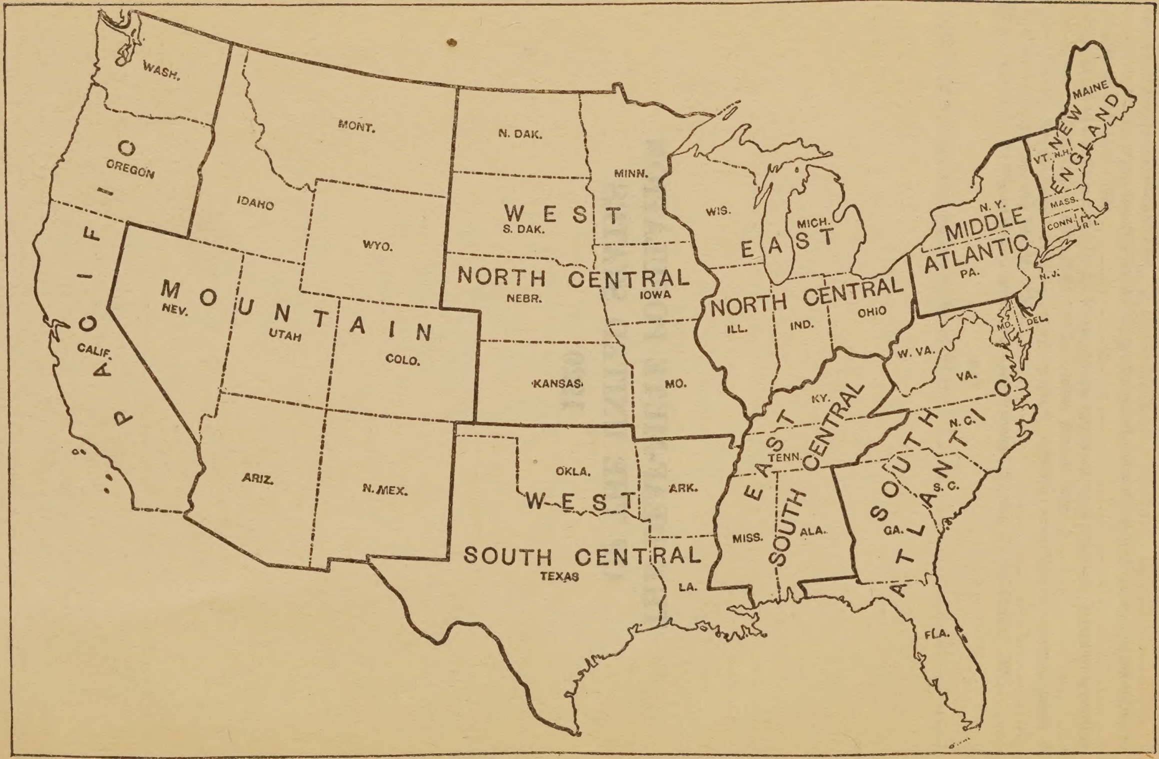
THE DEAF-MUTE POPULATION OF THE UNITED STATES
1920

MAP OF UNITED STATES SHOWING GEOGRAPHIC DIVISIONS



THE DEAF-MUTE POPULATION OF THE UNITED STATES: 1920

INTRODUCTION

This report presents a summary and analysis of the data concerning deaf-mutes in the United States in 1920, obtained in connection with the Fourteenth Decennial Census.[1] Most of these data relate to 35,026 deaf-mutes who returned special schedules.

In 1920, a total of 52,595 persons were reported as deaf-mutes, to each of whom an individual schedule, requesting information as to sex, age, cause of deafness, etc., was mailed. This number included 37,534 who were reported by regular census enumerators, 7,351 located through lists furnished by schools and other agencies engaged in work for the deaf,[2] and 7,710 persons who were afterward excluded on the basis of information given on their schedules.

Of the whole number reported, 52,595, individual schedules were received from 42,831, or 81.4 per cent; 9,764 reported as deaf-mutes by the enumerators failed to return the special schedule. Of the total of 42,831 who returned schedules, only 35,121, or 82 per cent, on the basis of that information, were found to come within the scope of the census; if to that number be added the 9,764 reported by the enumerators but who failed to return special schedules, the number thus obtained is 44,885, which represents 425 deaf-mutes per million of the general population. It is probable that this number does not include all the deaf-mutes in the country, because of deficiency in the enumeration, but it is impossible to estimate the extent to which this deficiency is offset by the inclusion of a number, among those who did not return the special schedules, who were not actually deaf-mutes.

Deaf-mutes have been enumerated, as required by law, at every decennial population census of the United States beginning with 1830, this being one of the first nation-wide censuses of deaf-mutes known to have been taken in any country.[3] Important changes have been made from time to time in the scope and method of the census of deaf-mutes. It is desirable to review these changes in order to show how far the data are comparable.

Definition.—For practical purposes a "deaf-mute" may be defined as a person who is totally deaf or virtually so, and who at the same time, usually as a result of deafness, is more or less deficient in speech.

Especially for census purposes, one may be considered a deaf-mute who is almost or entirely deaf, and who, in addition, has never acquired the faculty of speech, or has lost speech after the coming on of deafness, or has required special instruction for the acquisition or retention of speech.

---

[1] The detailed figures were published without analysis in a report of the Bureau of the Census issued in 1923, entitled "Deaf-mutes in the United States: 1920."

[2] Of this number, 6,024 were reported by schools and 1,327 by associations of the deaf and organizations for the welfare of the deaf.

[3] A complete enumeration of the deaf and dumb was made in Prussia as early as 1825; before this date, however, official censuses of this class had been made in individual districts in that country.

Specifically, the three following classes are considered as deaf-mutes in the census inquiries: (1) Totally deaf persons unable to use speech as a means of communication—those in the most literal sense "deaf-mutes." (2) All other totally deaf persons who have lost hearing before they were 8 years old, including those able to use speech for communication. (3) All partially deaf persons whose deafness has occurred under 8 years of age, and who can hear only with an ear trumpet or other mechanical appliance.[4]

Whether or not a person who is deaf is to be classified as a "deaf-mute" usually depends almost entirely upon the age at which hearing is lost. "Deafness," or the absence of the power of hearing, and "mutism," or the absence of the power of normal speech, are two entirely different things, both in the structure and in the functioning of the organs concerned. Nearly all deaf-mutes have normal organs of speech, but these organs do not function properly. Correct speech depends almost entirely on what the ear becomes accustomed to regard as such. If the ear can not do its part, the organs of speech are without direction and guidance, and lack the delicate modulation and harmonization required for normal speech.

Thus, deaf persons do not usually become deaf-mutes unless their hearing is lost so early in life that their power of speech has not yet been acquired or has been acquired in only limited degree. Persons who have had hearing throughout the formative period of childhood, or long enough to acquire good speech, will usually retain this speech during the remainder of life, even though in the course of time it may become more or less imperfect.

Generally, one who has lost his hearing before the age of 8 is to be classed as a deaf-mute. Speech acquired by that time may be presumed to have been permanently acquired.[5] The main effort, when hearing is lost after childhood, is to keep intact the speaking ability that has previously been acquired.[6] Vocalization and articulation are then to a considerable extent established or habitual, and approach the normal. Special oral instruction, of course, is often helpful, particularly to insure the proper and distinct pronunciation of words and correct modulation of voice, the ear now no longer serving as guide for such purposes.

---

[4] Aside from the necessity of laying down certain rules to bring persons designated as deaf-mutes within the scope of the census, it is a serious misuse of words to refer to a person as "deaf" who merely has imperfect or defective hearing. The term "deaf" should be applied only to persons whose hearing is entirely or almost entirely wanting, just as the term "blind" is applied to persons whose sight is entirely or practically gone. On the other hand, the term "deaf" alone, in reference to persons really deaf-mutes (used generally in the special institutions for the education of this class), is also of doubtful accuracy; the reasons for this usage are readily understood, however, arising as they do from a desire to impress upon the public and upon the pupil the possibility of acquiring or retaining a certain degree of speech. The term "deaf-mute," it is true, though an improvement over "deaf and dumb," is not an entirely happy one. The one correct though unwieldy expression is, of course, "deaf and defective in speech." The entire situation is unfortunate, and it will be difficult to obtain entirely complete and scientific statistics until more precise terminology shall have been adopted.

[5] If the deafness occurs before or during the formative period of speech, one remains a deaf-mute, or largely reverts to that condition. If deafness occurs beyond that stage, such reversion does not in general take place. Where hearing is lost before the age of 2, practically no speech has been acquired. When it is lost between 2 and 5, the speech acquired remains imperfect at best, the memory of a little child being short, and the correct utterance of words being soon forgotten. Should hearing be lost at later ages, speech is retained in increasingly better measure. With hearing held until after childhood, speech can generally be continued, the main imperfections consisting in the pronunciation of words. (See special reports of the Census Office, The Blind and the Deaf: 1900, p. 83; Reference Handbook of the Medical Sciences, ed. 1923, iii, p. 428.)

[6] Persons who have become deaf, but whose speech remains fairly good, comparatively speaking, are sometimes known as "semimutes."

Historical summary.—The census of deaf-mutes covers all persons who by reason of defective hearing either have never acquired the faculty of articulate speech, or have required special instruction in order to acquire it. Prior to 1880 the census instructions and schedules failed to define the term "deaf and dumb," which was then used in connection with the census of deaf-mutes. The meaning of the term was apparently considered so obvious as to require no definition. Later experience has shown this assumption to be erroneous. It has been found that even with definition of the more precise term "deaf-mute," which is now used, supplemented by detailed instructions, some census enumerators report as deaf-mutes persons who have become deaf after learning to speak and thus can not be correctly described as "deaf-mutes," whereas other enumerators err in the opposite direction by failing to report genuine deaf-mutes who have been taught to speak by means of special instruction in schools for the deaf·

In view of the evident need for careful definition, it is apparent that a notable improvement was made in the census of deaf-mutes when, in 1880, the instructions to enumerators defined a "deaf-mute" as "one who can not speak because he can not hear sufficiently well to learn to speak." Other instructions made it clear that all deaf-mutes, in the broader sense of the term, were to be reported, including those who had learned to speak through special instruction. In tabulating the returns for 1880 all persons reported as having become deaf after reaching the age of 16 were excluded, on the ground that by that age their powers of speech were so developed that they did not require special training at a school for the deaf.

At the census of 1890 the enumerators were instructed to report every person who was either deaf or mute, but to state in every case whether the person in question was able to speak. In tabulating the data the deaf were divided into two classes, those who could speak and those who could not speak. The latter class was made up of deaf-mutes, but failed to include those deaf-mutes who had been taught to speak. Thus the 1890 census of deaf-mutes was somewhat less comprehensive than that of 1880, in so far as the tabulated figures are concerned.

In 1900, as in 1890, the census included not only deaf-mutes, but all the deaf who were unable to understand loudly shouted conversation. However, the basic distinction between deaf-mutes and other deaf persons was not made in the tabulation (as had been the case in 1890), and the number of deaf persons who were reported in 1900 as unable to speak at all undoubtedly formed a smaller proportion of the whole deaf-mute population than they did in the 1890 census figures.[7]

In 1910 and 1920 the census did not cover all of the deaf, but was restricted, like all of the enumerations before 1890, to deaf-mutes. In 1910 the enumerators received the following instructions, which were printed on the population schedule:

> *Column 32. Whether deaf and dumb.*—If a person is *both* deaf and dumb write "DD." For all other persons leave the column blank. Persons who are deaf but not dumb, or persons who are dumb but not deaf, are not to be reported.

---

[7] The special schedules were collected in 1900 for the first time by individual correspondence with deaf persons. "In tabulating the returns all persons who failed to return the schedule were excluded, although many of them must have been deaf, and some of them deaf-mutes. The figure shown for 1900 in Table 1, therefore, is only a partial figure, representing an unknown fraction of the true total, a circumstance which explains the great decreases shown in the table for 1900 as compared with earlier censuses."—Bureau of the Census, Deaf-mutes in the United States: 1910, p. 16.

It was found that these instructions were not uniformly applied by the enumerators. Accordingly, in 1920 the instructions were made more detailed and specific, as follows:

> Include as a deaf-mute (1) any child under 8 years of age who is totally deaf, and (2) any older person who has been totally deaf from childhood or was born deaf. Do not include a person who became deaf after the age of 8 either from accident or from disease or from old age. A person is to be considered as totally deaf who can not understand loudly shouted conversation or can understand it only with the aid of an ear trumpet or other mechanical device. In case of infants or young children not old enough to understand conversation, the test should be whether they apparently hear when addressed in a loud tone of voice.[8]

The detailed tabulation of deaf-mutes, therefore, for both 1910 and 1920, included substantially the following classes of persons in so far as they were reported:

(1) Those literally unable to hear or speak.

(2) Persons, either able or unable to speak, who had become deaf under 8 years of age, including—

(*a*) Those totally deaf.

(*b*) Those partially deaf, but able to hear only with ear trumpets or other mechanical devices.

The limit as regards the age when deafness occurred was fixed as stated because experience has shown that by the completion of the eighth year of life a child has usually learned to speak well enough, so that the problem, in case he becomes deaf, is merely to keep him from losing what he already has.

In summary, the census of deaf-mutes had essentially the same scope in 1920 as in 1910, and it was more comprehensive, as well as more clearly defined, than the censuses of 1890 and 1900. The census of 1880, however, was still more comprehensive than those of 1910 and 1920, since it enumerated persons of all ages and the tabulations included persons who had become deaf between the ages of 8 and 16 years. If able to speak, such persons, according to expert opinion at the present time, are not properly to be regarded as deaf-mutes.

Method of enumeration.—Prior to 1900 the data concerning deaf-mutes were collected almost exclusively by the regular census enumerators in connection with population enumeration. A special column was provided on the population schedule for the return. In 1880, in addition to this column, the use of a supplemental schedule was inaugurated. This schedule called for certain data of special significance in relation to deaf-mutes, such as the "supposed cause of deafness," and the "age at which deafness occurred." A much more detailed supplemental schedule was used in the census of the deaf in 1890.

In 1900 the special column was omitted from the regular population schedule and the return was made by enumerators on a separate blank which merely called for the name, age, sex, and address of every deaf or blind person. Later a special schedule requesting detailed information was sent out to those reported as deaf by the enumerators. This was the first attempt to collect data directly from the deaf by the correspondence method.

In 1910 a return was made to the use of a column on the regular population schedule for the report of deaf-mutes. In 1920 the enumerator's report was again made on a separate sheet, as in 1900. Both in 1910 and 1920, as in 1900, the detailed information was obtained by sending a special schedule to those reported by enumerators. Thus the correspondence method has been used for the last three enumerations. On the whole this method, though involving possible omissions, has yielded better results than reliance upon the regular census enumerators, as in 1880 and 1890. Even though the enumerators return schedules for a larger percentage of cases, the correspondence method as a rule produces fuller and more accurate data for those who do return schedules.

---

[8] Of the 7,710 persons whose schedules were rejected because they were not deaf-mutes on the basis stated, 1,554 had been over 8 years of age when deafness occurred, 4,420 were only partially deaf, 1,107 were mute but not deaf, and 629 were neither mute nor deaf.

At the censuses of 1880, 1890, and 1900 enumerators received 5 cents additional pay for each deaf-mute reported on a supplemental schedule. At the 1910 and 1920 censuses no extra pay was given enumerators for reporting deaf-mutes, and it is probable that without the financial incentive the returns from enumerators were somewhat less complete in 1910 and 1920 than in the three previous enumerations.

NUMBER AND DISTRIBUTION

Statistical summary.—The figures showing the total number of deaf-mutes enumerated at each census from 1830 to 1920, inclusive, are summarized in Table 1, which shows also the number of reported deaf-mutes per million of general population and the percentage of increase of each census over that immediately preceding.

TABLE 1.—DEAF-MUTES IN THE UNITED STATES: 1830 TO 1920

CENSUS YEAR	DEAF-MUTES		
	Total number	Per 1,000,000 of the general population	Per cent of increase over preceding census [1]
1920	44,885	425	0.4
1910	44,708	486	83.5
1900 [2]	24,369	321	−40.0
1890 [3]	40,592	648	19.8
1880 [4]	33,878	675	109.1
1870	16,205	420	26.4
1860	12,821	408	30.8
1850	9,803	423	27.7
1840	7,678	450	25.7
1830	6,106	475	----------

[1] A minus sign (−) denotes decrease.
[2] Deaf persons unable to speak at all for whom special schedules were returned.
[3] Deaf persons unable to speak at all.
[4] Deaf-mutes, exclusive of those reported as 16 years of age or over when hearing was lost.

The ratio of reported deaf-mutes to the population decreased steadily from 475 per million in 1830 to 408 per million in 1860, then increased slightly in 1870, and increased very considerably to a maximum of 675 per million in 1880. In 1890 there was a slight drop, and in 1900 the ratio was less than one-half that of the preceding year. For 1910 and 1920, though somewhat higher than for 1900, the ratios were similar to those of the earliest censuses, reaching in 1920 only 425 per million population.

Because of changes in scope and method, chiefly those outlined in the Introduction (pp. 7–11), the census of deaf-mutes has varied so widely in completeness and comprehensiveness that figures for the different years are not exactly comparable and do not show definitely whether the deaf-mute population has been increasing faster or more slowly than the general population. For all censuses prior to 1870 the census returns are known to have been seriously incomplete. None the less, owing to uniform definition (or lack of definition) and methods of reporting, the first four enumerations probably did not differ greatly in respect to completeness. Hence, the small but steady decrease between 1830 and 1860 in the ratio of deaf-mutes to the general population may reflect an actual decline in the relative number of deaf-mutes in the population. The slight increase for 1870 and the striking increase for 1880 in the ratio of deaf-mutes to the total population are probably accounted for almost entirely by more complete enumeration, brought about by improvements in administrative methods and, in 1880, by clearer definition of the scope of the census. Disregarding the figures for 1900, which, as noted above, were especially incomplete,[9] each successive census since 1880 has registered a decreased ratio of deaf-mutes to population. No doubt this decrease is, in part, only apparent. The census of 1890 was less comprehensive in scope, and also probably less complete, than that of 1880. Furthermore, the census may have been still less complete in 1910 and 1920 than in 1890, owing to the fact that no extra pay was given enumerators for reporting deaf-mutes, as had been done in the three previous censuses.

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[9] Since they represent only a fraction of the deaf-mutes reported by enumerators. See footnote 7, p. 9.

It is uncertain whether the 1920 census was more complete, or less complete, than that of 1910. Undoubtedly, the use of a supplemental blank only for the report tended to make the 1920 returns somewhat less complete than those of 1910, when a special column on the regular population schedule served to remind the enumerators of the need to inquire for deaf-mutes. However, the probable deficiency from this cause was offset in part or in full by the fact that in 1920, as already noted, the enumerators' returns were supplemented by lists of deaf persons obtained from various institutions and organizations for the deaf. Special schedules were mailed to these, as well as to the deaf reported by enumerators, and those who returned satisfactory schedules were included in the deaf population enumerated. The number thus included was 7,351, making an addition of 19.6 per cent to the 37,534 reported by enumerators. No such supplementary canvass was made in 1910. Moreover, the definition and the instructions to enumerators were fuller and more specific in 1920 than in 1910, and probably tended to increase the relative completeness of the 1920 census. On the whole it seems unlikely that the 1920 census differed greatly in completeness from that of 1910.

Taking into consideration these changes in the scope and completeness of the deaf-mute enumerations as factors in producing the progressively lower ratio to population which is shown in Table 1, it is very probable that this decline in the ratio reflects in part a genuine reduction in the relative amount of deaf-mutism. This proposition is based partly upon the fact that the successive reductions in the deaf-mute ratio seem somewhat too large to be accounted for by the changes in comprehensiveness and completeness of enumeration. However, stronger supporting evidence lies in the fact that since 1880 certain diseases which are important causes of deafness, such as scarlet fever, diphtheria, malaria, and meningitis, have become continually less prevalent, as indicated by mortality rates.[10]

Geographic distribution.—Table 2 shows the number of deaf-mutes in each geographic division and in each State of the United States as enumerated in the census of 1920, together with the number of deaf-mutes per million of the general population for 1920 and 1910, and the number and percentage returning special schedules.

Differences in the proportion of schedules returned from different States are due to various factors, the most important perhaps being the degree of education and the percentage of urban population.

The total number of deaf-mutes enumerated in the United States in 1920 was 44,885.[11] There were thus 425 deaf-mutes for every million persons of the population in general. In other words, there was 1 deaf-mute to every 2,355 persons in the total population.

---

[10] See discussion of changes in mortality rates in section on Causes of Deafness, pp. 104–142. The available statistics of deaf-mutism in European countries in 1910, as compared with 1880, also show a general downward trend in deaf-mutism, which has been attributed to the progress made toward the control of contagious and infectious diseases. Bureau of the Census reports, Deaf-mutes in the United States: 1910, p. 17.

[11] For statement concerning the accuracy of this figure, see Introduction.

TABLE 2.—DEAF-MUTES, BY DIVISIONS AND STATES: 1920 AND 1910

DIVISION AND STATE	DEAF-MUTES AS REPORTED					
	Total number, 1920	Per 1,000,000 of the general population		Returning satisfactory schedules		
		1920	1910	Total number, 1920	Per cent of total[1]	
					1920	1910
UNITED STATES	44,885	425	486	[2] 35,121	78.2	42.8
GEOGRAPHIC DIVISIONS:						
New England	3,093	418	362	2,656	85.9	50.0
Middle Atlantic	8,361	376	457	6,953	83.2	46.8
East North Central	10,770	502	538	8,964	83.2	44.1
West North Central	5,812	463	534	4,640	79.8	44.5
South Atlantic	5,946	425	513	4,103	69.0	37.2
East South Central	3,745	421	530	2,605	69.6	41.8
West South Central	3,902	381	489	2,680	68.7	37.5
Mountain	1,211	363	390	924	76.3	34.3
Pacific	2,045	367	345	1,596	78.0	40.1
NEW ENGLAND:						
Maine	414	539	474	354	85.5	47.2
New Hampshire	149	336	469	131	87.9	49.0
Vermont	143	406	360	125	87.4	48.4
Massachusetts	1,592	413	336	1,377	86.5	50.0
Rhode Island	197	326	396	166	84.3	52.6
Connecticut	598	433	309	503	84.1	52.5
MIDDLE ATLANTIC:						
New York	4,022	387	533	3,379	84.0	48.3
New Jersey	940	298	276	751	79.9	46.3
Pennsylvania	3,399	390	426	2,823	83.1	44.8
EAST NORTH CENTRAL:						
Ohio	2,763	480	561	2,161	78.2	43.1
Indiana	1,576	538	642	1,266	80.3	36.6
Illinois	2,941	453	483	2,519	85.7	48.1
Michigan	1,802	491	489	1,536	85.2	48.0
Wisconsin	1,688	641	558	1,482	87.8	43.9
WEST NORTH CENTRAL:						
Minnesota	1,044	437	536	848	81.2	44.8
Iowa	1,066	443	447	856	80.3	43.8
Missouri	1,703	500	572	1,310	76.9	46.3
North Dakota	247	382	435	207	83.8	40.2
South Dakota	283	445	567	231	81.6	32.9
Nebraska	553	427	565	472	85.4	41.5
Kansas	916	518	570	716	78.2	48.8
SOUTH ATLANTIC:						
Delaware	46	206	297	27		
Maryland	657	453	598	524	79.8	50.1
District of Columbia	351	802	356	259	73.8	47.5
Virginia	1,042	451	561	752	72.2	32.5
West Virginia	632	432	605	485	76.7	41.1
North Carolina	1,189	465	661	841	70.7	34.6
South Carolina	539	320	491	277	51.4	32.9
Georgia	1,094	378	379	676	61.8	35.2
Florida	396	409	294	262	66.2	38.9
EAST SOUTH CENTRAL:						
Kentucky	1,255	519	704	949	75.6	41.2
Tennessee	1,103	472	579	765	69.4	46.5
Alabama	817	348	386	548	67.1	38.4
Mississippi	570	318	420	343	60.2	39.2
WEST SOUTH CENTRAL:						
Arkansas	740	422	474	550	74.3	45.0
Louisiana	866	482	480	523	60.4	31.9
Oklahoma	624	308	511	365	58.5	35.9
Texas	1,672	359	490	1,242	74.3	37.7
MOUNTAIN:						
Montana	150	273	319	128	85.3	40.0
Idaho	124	287	362	102	82.3	34.7
Wyoming	36	185	171	18		
Colorado	364	387	325	299	82.1	41.9
New Mexico	190	527	587	102	53.7	30.7
Arizona	92	275	259	62		
Utah	236	525	632	200	84.7	24.6
Nevada	19	245	281	13		
PACIFIC:						
Washington	566	417	331	471	83.2	40.2
Oregon	344	439	379	265	77.0	51.0
California	1,135	331	343	860	75.8	36.7

---

[1] Per cent not shown where base is less than 100.

[2] Includes 95 deaf-mutes returning schedules too late for inclusion in detailed tabulation, as follows: Wisconsin, 88; Illinois, 2; Minnesota, 2; Georgia, 1; Pennsylvania, 1; Vermont, 1.

In proportion to population, from Table 2, the deaf-mutes appear to be most numerous in the north central parts of the country, and less numerous in the northeastern and western parts. The highest proportion for any geographic division is found in the East North Central, which has a ratio of 502 deaf-mutes per million population. At the other extreme, the Mountain division has a ratio of only 363.

The eight individual States having the highest ratios, disregarding the District of Columbia, are, in the order named, Wisconsin, Maine, Indiana, New Mexico, Utah, Kentucky, Kansas, and Missouri—each of these States having a ratio of 500 or more per million of population. The States having unusually low ratios are Wyoming, Delaware, Nevada, Montana, Arizona, Idaho, and New Jersey—each of these States having a ratio of less than 300.

The differences in the ratios of deaf-mutes to total population in various parts of the country are by no means easy to explain. Pairs of States, contiguous to each other, show wide divergencies in their ratios, as Maine and New Hampshire, Minnesota and Wisconsin, Indiana and Illinois, Utah and Idaho, New Mexico and Arizona, etc.

Such differences may be due in part to variations in the prevalence of the diseases which cause most cases of deafness, while the extent of deafness from certain diseases is, in turn, affected by climatic conditions in different parts of the country. Another possible factor of importance is the wide disparity in the medical facilities which have been available in various localities.

In some areas there may be a proportionately large amount of congenital deafness, possibly due in some measure to conditions of inbreeding, which serves to increase the number of deaf-mutes. The relatively low proportions of deaf-mutism found in the western part of the United States may in some measure be due to the circumstance that this is a newer and less settled region, one consequently to which deaf-mutes might be less likely to move. The abnormally high ratio of deaf-mutes in the District of Columbia is due to the presence there of the Federal college for deaf-mutes, Gallaudet College for the Deaf, which draws students from all parts of the Union. In some localities, especially in the North and East, in which a very considerable proportion of the population is of foreign origin, relatively fewer deaf-mutes are to be expected, the immigration laws, while not directly excluding them, making their entry difficult. In the South, the ratios of deaf-mutes to population are kept down to some extent by the fact that among negroes, who constitute a very large proportion of the general population, there are relatively fewer deaf-mutes than in the white population.

The variations are also explained to a limited extent by the fact that the census has been more complete for some sections than for others, and probably somewhat less complete for the South than for any other section.

The number and size of urban communities in different parts of the country constitute an additional factor which influences the ratio of deaf-mutes to the population. Though fuller and better facilities are usually available in urban localities for the treatment of disorders of the ear, and thus for the prevention of deafness, this circumstance is more than offset by the marked tendency of deaf-mutes to move into the cities and towns, where industrial opportunities, suited to the peculiar exigencies of deaf-mutes, are more numerous. As explained in the section on Economic Condition (p. 76), deaf-mutes are leaving agricultural pursuits in order to go into manufacturing and mechanical industries. At the same time the natural desire of the deaf-mutes for companionship inclines them to congregate in localities where their fellows are to be found, and where companionship on equal terms is possible. The organizations of deaf-mutes, which are generally most active in cities, have added drawing power. Hence a relatively large proportion of deaf-mutes may be looked for in States and sections having large percentages of urban population. In certain cities in the States having high ratios, deaf-mutes are known to be very numerous. It is to be observed, however, that in certain States with large percentages of urban population, New York and New Jersey, for example, the ratio of deaf-mutes is not especially great.

As compared with 1910, the 1920 census figures show an appreciable decrease in the ratio of deaf-mutes to the total population, or from 486 per million to 425 in the country as a whole. This decrease extends to all divisions except the New England and the Pacific, and to all States except Maine, Vermont, Massachusetts, Connecticut, New Jersey, Michigan, Wisconsin, District of Columbia, Florida, Louisiana, Wyoming, Colorado, Arizona, Washington, and Oregon.

Table 2 shows, also, that the proportion of deaf-mutes who returned satisfactory individual schedules was almost twice as large in 1920 as in 1910, in the United States and in several of the geographic divisions.

In Table 3 are shown the number of deaf-mutes reported at different census years from 1830, the first year statistics were collected on the subject, to 1920, for the different geographic divisions and for the different States of the Union.

The ratio of deaf-mutes to general population in each census year, based upon these figures, is not presented for individual States, because of the lack of full comparability in the figures, resulting from changes in the scope and method of taking the census and from variations among the States in the completeness of the census. For the country at large, as already noted, there has probably been, on the whole, a small but steady decline in this ratio, especially during recent years.[12]

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[12] See Introduction (p. 9); see also section on Causes of Deafness (p. 110).

TABLE 3.—DEAF-MUTES, BY DIVISIONS AND STATES: 1830 TO 1920

DIVISION AND STATE	1920	1910	1900 [1]	1890 [2]	1880 [3]	1870	1860	1850	1840	1830
UNITED STATES	44,885	44,708	24,369	40,592	33,878	16,205	12,821	9,803	7,678	6,106
GEOGRAPHIC DIVISIONS:										
New England	3,093	2,373	1,279	3,389	2,581	1,694	1,482	1,403	1,246	1,112
Middle Atlantic	8,361	8,823	3,974	7,967	7,368	3,447	3,148	2,597	2,118	1,904
East North Central	10,770	9,810	5,634	9,837	8,512	3,958	2,892	2,002	1,121	660
West North Central	5,812	6,211	4,082	6,214	4,151	1,685	821	341	167	35
South Atlantic	5,946	6,260	3,673	5,597	4,975	2,536	2,239	1,902	1,772	1,609
East South Central	3,745	4,458	2,695	3,831	3,682	1,939	1,571	1,257	1,153	702
West South Central	3,902	4,298	2,100	2,478	1,784	694	551	260	101	84
Mountain	1,211	1,027	370	508	317	82	42	34	------	------
Pacific	2,045	1,448	562	771	508	170	75	7	------	------
NEW ENGLAND:										
Maine	414	352	237	627	455	299	297	266	235	185
New Hampshire	149	202	111	321	221	170	163	162	190	144
Vermont	143	128	60	241	212	148	144	148	137	158
Massachusetts	1,592	1,131	562	1,539	978	538	427	358	290	265
Rhode Island	197	215	53	162	150	64	56	65	77	60
Connecticut	598	345	256	499	565	475	395	404	317	300
MIDDLE ATLANTIC:										
New York	4,022	4,861	1,864	3,843	3,762	1,783	1,579	1,263	1,107	885
New Jersey	940	700	391	764	527	231	212	189	179	222
Pennsylvania	3,399	3,262	1,719	3,360	3,079	1,433	1,357	1,145	832	797
EAST NORTH CENTRAL:										
Ohio	2,763	2,675	1,510	2,655	2,301	1,339	959	915	592	435
Indiana	1,576	1,734	1,103	1,837	1,764	872	600	537	312	144
Illinois	2,941	2,725	1,462	2,480	2,202	833	743	356	179	66
Michigan	1,802	1,374	801	1,549	1,166	455	277	125	33	15
Wisconsin	1,688	1,302	758	1,316	1,079	459	313	69	5	------
WEST NORTH CENTRAL:										
Minnesota	1,044	1,113	630	857	500	166	33	(4)	------	------
Iowa	1,066	995	815	1,313	1,052	549	252	59	14	------
Missouri	1,703	1,884	1,322	1,998	1,598	790	498	282	153	35
North Dakota	247	251	90	92	[5] 63	[5] 4	(6)	------	------	------
South Dakota	283	331	137	173	(7)	(7)	(6)	------	------	------
Nebraska	553	674	389	629	287	55	11	------	------	------
Kansas	916	963	699	1,152	651	121	27	------	------	------
SOUTH ATLANTIC:										
Delaware	46	60	47	98	84	61	56	54	55	44
Maryland	657	774	395	750	671	384	237	261	249	231
District of Columbia	351	118	75	124	169	134	47	19	12	14
Virginia	1,042	1,157	706	1,199	998	534	816	642	603	549
West Virginia	632	739	467	600	520	218	------	------	------	------
North Carolina	1,189	1,458	736	1,108	1,032	619	468	471	354	313
South Carolina	539	744	427	668	564	212	203	165	218	243
Georgia	1,094	989	688	860	819	326	388	266	265	204
Florida	396	221	132	190	118	48	24	24	16	11
EAST SOUTH CENTRAL:										
Kentucky	1,255	1,612	976	1,363	1,275	723	652	563	477	349
Tennessee	1,103	1,265	780	1,115	1,108	570	436	377	358	200
Alabama	817	826	522	794	693	401	275	210	226	112
Mississippi	570	755	417	559	606	245	208	107	92	41
WEST SOUTH CENTRAL:										
Arkansas	740	747	556	760	489	265	131	84	42	14
Louisiana	866	795	446	539	524	197	239	117	59	70
Oklahoma	624	847	[8] 208	[9] 26	------	------	------	------	------	------
Texas	1,672	1,909	890	1,153	771	232	181	59	------	------
MOUNTAIN:										
Montana	150	120	51	40	9	5	------	------	------	------
Idaho	124	118	33	31	7	1	------	------	------	------
Wyoming	36	25	5	16	11	2	------	------	------	------
Colorado	364	260	94	205	85	4	(4)	------	------	------
New Mexico	190	192	64	80	70	48	35	34	------	------
Arizona	92	53	15	15	7	(4)	------	------	------	------
Utah	236	236	101	108	118	18	7	(4)	------	------
Nevada	19	23	7	13	10	4	(4)	------	------	------
PACIFIC:										
Washington	566	378	97	118	24	6	3	------	------	------
Oregon	344	255	141	157	102	23	15	(4)	------	------
California	1,135	815	324	496	382	141	57	7	------	------

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[1] Deaf persons unable to speak at all for whom special schedules were returned.
[2] Deaf persons unable to speak at all.
[3] Deaf-mutes, exclusive of those reported as 16 years of age or over when hearing was lost.
[4] No deaf-mutes reported.
[5] Figures for Dakota Territory.
[6] No deaf-mutes reported for Dakota Territory.
[7] Figures for Dakota Territory given under North Dakota.
[8] Includes figures for Indian Territory.
[9] Figures for Oklahoma Territory only. Figures for Indian Territory are not available.

SEX

Comparison with earlier censuses.—Table 4 shows the distribution of deaf-mutes by sex in the United States at each census from 1850, the first year for which separate figures for the two sexes are available. This table also compares the deaf-mutes and the general population with respect to the number of males per 100 females.

TABLE 4.—DEAF-MUTES BY SEX, WITH SEX RATIOS FOR DEAF-MUTES AND FOR THE GENERAL POPULATION, FOR THE UNITED STATES: 1850 TO 1920

CENSUS YEAR	DEAF-MUTES			Males per 100 females in the general population	EXCESS OF MALES PER 100 FEMALES AMONG DEAF-MUTES, AS COMPARED WITH GENERAL POPULATION	
	Male	Female	Males per 100 females		Number	Per cent
1920 [1]	19,166	15,860	120.8	104.0	16.8	16.2
1910 [1]	10,507	8,646	121.5	106.0	15.5	14.6
1900 [2]	13,495	10,874	124.1	104.4	19.7	18.9
1890 [3]	22,429	18,163	123.5	105.0	18.5	17.6
1880 [4]	18,567	15,311	121.3	103.6	17.7	17.1
1870	8,916	7,289	122.3	102.2	20.1	19.7
1860	7,124	5,697	125.0	104.7	20.3	19.4
1850	5,418	4,385	123.6	104.3	19.3	18.5

[1] Figures for deaf-mutes relate only to those returning special schedules.

[2] Figures for deaf-mutes relate to deaf-mutes unable to speak at all, for whom special schedules were returned.

[3] Figures for deaf-mutes relate to deaf-mutes unable to speak at all.

[4] Figures for deaf-mutes are exclusive of those reported as 16 years of age or over when hearing was lost.

Of all reported deaf-mutes in 1920, 54.7 per cent were male and 45.3 per cent female. There were 120.8 males for every 100 females among deaf-mutes, while in the general population there were only 104, an excess for deaf-mutes of 16.8. A more accurate index of the excess of males among deaf-mutes, or the greater incidence of deafness among males than among females, may be found by dividing this figure by the normal sex ratio in the total population; on this basis, in 1920, the relative excess of males in the deaf-mute population would be slightly lower, or 16.2. In the seven census years compared the excess was never less than 15 and was sometimes as great as 20. There were fluctuations from period to period among both groups, but apparently little correspondence in such fluctuations.

The excessive number of male deaf-mutes may be due to greater prevalence among males than among females of certain diseases which often result in deafness. Also, it is possible that these diseases may produce deafness more frequently among males than among females.

Geographic divisions.—Table 5 gives, by geographic divisions, the number of male and female deaf-mutes for 1920, and for both 1920 and 1910 the ratio of males to females among deaf-mutes and in the general population.

TABLE 5.—DEAF-MUTES BY SEX, WITH SEX RATIOS FOR DEAF-MUTES AND FOR THE GENERAL POPULATION, BY GEOGRAPHIC DIVISIONS: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

GEOGRAPHIC DIVISION	DEAF-MUTES				MALES PER 100 FEMALES IN THE GENERAL POPULATION		EXCESS OF MALES PER 100 FEMALES AMONG DEAF-MUTES AS COMPARED WITH GENERAL POPULATION, 1920	
	Number, 1920		Males per 100 females					
	Male	Female	1920	1910	1920	1910	Number	Per cent
United States	19,166	15,860	120.8	121.5	104.0	106.0	16.8	16.2
New England	1,447	1,208	119.8	122.7	98.5	99.3	21.3	21.6
Middle Atlantic	3,825	3,127	122.3	129.4	101.4	103.3	20.9	20.6
East North Central	4,936	3,938	125.3	120.1	105.7	106.0	19.6	18.5
West North Central	2,546	2,092	121.7	124.0	106.1	109.9	15.6	14.7
South Atlantic	2,230	1,872	119.1	117.6	101.2	101.2	17.9	17.7
East South Central	1,365	1,240	110.1	116.9	101.1	101.9	9.0	8.9
West South Central	1,421	1,259	112.9	111.1	105.8	107.2	7.1	6.7
Mountain	519	405	128.1	136.2	115.7	127.9	12.4	10.7
Pacific	877	719	122.0	117.6	113.9	129.5	8.1	7.1

The sex ratios for deaf-mutes differ considerably from the ratios for the population at large. The largest relative proportions of male deaf-mutes are found in the northern and eastern parts of the country, while in the southern and western sections are found the smallest relative proportions. In the United States as a whole the number of males per 100 females among deaf-mutes exceeds the similar ratio in the general population by 16.8, or by 16.2 if the normal excess of males in the general population is eliminated. Corresponding excesses range from the maximum of 21.3, in the New England division, to a minimum of 7.1 in the West South Central division. This situation suggests that the diseases producing deafness to a greater extent among males than among females (see discussion on p. 109) may have been more prevalent in some places than in others.

The results for 1920 are on the whole similar to those for 1910, though with certain variations as regards the difference between the ratio for deaf-mutes and that for the general population. The most notable change is in the Pacific division, where, in 1910, there was actually a smaller ratio for male deaf-mutes than for males in the general population. The ratio of males to females among deaf-mutes has decreased for 1920, as compared with 1910, in five divisions—the New England, Middle Atlantic, West North Central, East South Central, and Mountain.

RACE AND NATIVITY

Comparison with earlier censuses.—Table 6 shows the distribution by race and nativity of deaf-mutes returning special schedules as compared with a similar distribution of the general population, in 1920 and 1910.

TABLE 6.—DEAF-MUTES BY RACE AND NATIVITY, FOR THE UNITED STATES: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

RACE AND NATIVITY	DEAF-MUTES			PER CENT DISTRIBUTION OF GENERAL POPULATION	
	Number, 1920	Per cent distribution			
		1920	1910	1920	1910
All classes	35,026	100.0	100.0	100.0	100.0
White	33,427	95.4	94.1	89.7	88.9
Native	30,805	87.9	84.5	76.7	74.4
Foreign-born	2,622	7.5	9.6	13.0	14.5
Negro	1,487	4.2	5.6	9.9	10.7
Indian	96	0.3	0.3	0.2	0.3
Other colored [1]	16	(2)	(2)	0.2	0.2

[1] Includes Chinese and Japanese.

[2] Less than one-tenth of 1 per cent.

There is a relatively greater number of deaf-mutes among the whites than among the colored, and a relatively greater number among native whites than among foreign-born whites. Native whites constitute only about three-fourths (76.7 per cent) of the total population, but almost nine-tenths (87.9 per cent) of the deaf-mute population. Foreign-born whites comprise one-eighth (13 per cent) of the general population, but less than one-twelfth (7.5 per cent) of the deaf-mute. Negroes make the smallest relative contribution (4.2 per cent) to the deaf-mute population. This is less than one-half of their proportion in the total population (9.9 per cent). Indians have a relatively high proportion of deaf-mutes, their percentage in the total population being 0.2, but in the deaf-mute population 0.3. The proportion of deaf-mutes who are Chinese, Japanese, etc., is negligible.

The relatively low ratio of deaf-mutes among the foreign born is to be expected, since few deaf-mutes migrate from foreign countries to the United States. Though no law specifically forbids their entrance into this country, yet in practice the provision excluding persons who might be likely to become public charges probably operates to exclude them to a large extent. The explanation of the very low ratio for negroes seems to lie in the fact that certain diseases which often result in deafness are less likely to have this effect upon negroes than upon whites. Indians are apparently especially susceptible to some of these diseases.

Compared with 1910 there has been an increase in the proportions of native whites among deaf-mutes and a decrease of foreign-born whites and negroes, both somewhat greater than the corresponding change in distribution of the general population between 1920 and 1910.

Table 7 shows the number of native white, foreign-born white, and negro deaf-mutes enumerated, their percentage distribution, and the number per million of general population of the same race or nativity class, from 1830 to 1920, except 1900 and 1910, for which years the figures are not entirely comparable.

TABLE 7.—DEAF-MUTES BY RACE AND NATIVITY, FOR THE UNITED STATES: 1830 TO 1920

CENSUS YEAR	DEAF-MUTES				
	All classes	White			Negro
		Total	Native	Foreign-born	
	NUMBER				
1920	[1] 44,885	[2] 42,820	[2] 39,454	[2] 3,366	[2] 1,885
1890	[1] 40,592	37,447	33,278	4,169	3,115
1880	[1] 33,878	30,661	27,304	3,357	[3] 3,177
1870	[1] 16,205	14,907	13,575	1,332	1,291
1860	12,821	11,856	10,801	1,055	965
1850 [4]	9,803	9,136	(5)	(5)	667
1840 [4]	7,678	6,692	(5)	(5)	986
1830 [4]	6,106	5,363	(5)	(5)	743
	PER CENT DISTRIBUTION				
1920	100.0	95.4	87.9	7.5	4.2
1890	100.0	92.3	82.0	10.3	7.7
1880	100.0	90.5	80.6	9.9	9.4
1870	100.0	92.0	83.8	8.2	8.0
1860	100.0	92.5	84.2	8.2	7.5
1850 [4]	100.0	93.2			6.8
1840 [4]	100.0	87.2			12.8
1830 [4]	100.0	87.8			12.2
	NUMBER PER 1,000,000 OF GENERAL POPULATION OF SAME RACE AND NATIVITY				
1920	425	[2] 452	[2] 486	[2] 245	[2] 180
1890	648	681	726	457	417
1880	675	706	741	512	483
1870	420	444	483	242	265
1860	408	440	473	258	217
1850 [4]	423	467	(5)	(5)	183
1840 [4]	450	471	(5)	(5)	343
1830 [4]	475	509	(5)	(5)	319

[1] Includes the small number of "other colored."
[2] Includes only the deaf-mute population returning special schedules.
[3] Includes 10 persons reported as "foreign colored" without further statement.
[4] The deaf-mute Indians enumerated, if any, were included with one of the other classes.
[5] Separate figures not available.

The percentage of white deaf-mutes, on the whole, has increased in this period, the increase being steady since 1880. Foreign-born whites show an increase from 1860 to 1890, and a decided decrease thereafter. With negroes the decline for the entire period has been notable, their proportion in 1920 being only about one-third of what it was in 1830, and not much more than one-half of what it was in 1890.

In all these census years, so far as comparison is possible, the ratio to total population is much higher for whites than for negroes, and the ratio for native whites greatly exceeds that for foreign-born whites. The ratios in the different census years for the several groups show a certain degree of correspondence. With all groups there has apparently been a material decrease since 1890, negroes showing the greatest relative decrease, foreign-born whites the next greatest, and native whites showing the least decrease.

The relatively greater decrease of deaf-mutism among negroes than among whites, while perhaps in part only apparent, probably reflects the introduction and the extension, among this class, of medical facilities for the treatment of the disorders liable to produce deafness. In other words, a very large share of the deaf-mutism among negroes in the past was due to preventable causes which are now being kept more and more under control.

The greater decrease of deaf-mutism in the foreign-born population than in the native is doubtless due largely to a reduction in the number of foreign born entering the country, as a result of the restrictive immigration laws. It is probable, also, that the relatively large proportion of the foreign born residing in cities, where there are likely to be better facilities for the treatment of ear complaints, has tended to reduce deaf-mutism among them.

Geographic divisions.—In Table 8 are given, for the several geographic divisions, the per cent distribution of deaf-mutes by race and nativity in 1920 and 1910, as compared with a similar distribution of the population at large in 1920. The actual numbers of deaf-mutes for 1920 are given for divisions and States in Table 95, page 146.

TABLE 8.—PER CENT DISTRIBUTION OF DEAF-MUTES BY RACE AND NATIVITY, AS COMPARED WITH GENERAL POPULATION, BY GEOGRAPHIC DIVISIONS: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

GEOGRAPHIC DIVISION AND CLASS OF POPULATION	WHITE			Negro	Other colored
	Total	Native	Foreign-born		
United States:					
General population: 1920	89.7	76.7	13.0	9.9	0.4
Deaf-mutes: 1920	95.4	87.9	7.5	4.2	0.3
Deaf-mutes: 1910	94.1	84.5	9.6	5.6	0.4
New England:					
General population: 1920	98.9	73.6	25.3	1.1	0.1
Deaf-mutes: 1920	99.7	85.3	14.3	0.3	----------
Deaf-mutes: 1910	99.1	79.2	19.9	0.8	0.1
Middle Atlantic:					
General population: 1920	97.2	75.2	22.1	2.7	0.1
Deaf-mutes: 1920	98.7	87.3	11.3	1.3	0.1
Deaf-mutes: 1910	98.6	82.8	15.8	1.3	0.1
East North Central:					
General population: 1920	97.5	82.5	15.0	2.4	0.1
Deaf-mutes: 1920	98.6	89.6	9.0	1.3	0.1
Deaf-mutes: 1910	98.8	86.7	12.0	1.1	0.1
West North Central:					
General population: 1920	97.5	86.5	10.9	2.2	0.3
Deaf-mutes: 1920	98.1	91.0	7.1	1.3	0.6
Deaf-mutes: 1910	97.1	87.4	9.8	2.1	0.8
South Atlantic:					
General population: 1920	69.0	66.7	2.3	30.9	0.1
Deaf-mutes: 1920	83.1	81.5	1.5	16.8	0.1
Deaf-mutes: 1910	80.4	79.4	1.0	19.5	0.1
East South Central:					
General population: 1920	71.6	70.8	0.8	28.4	(1)
Deaf-mutes: 1920	88.2	87.6	0.6	11.4	0.3
Deaf-mutes: 1910	84.8	84.2	0.6	15.2	----------
West South Central:					
General population: 1920	79.2	74.8	4.5	20.1	0.6
Deaf-mutes: 1920	91.0	89.9	1.1	8.3	0.7
Deaf-mutes: 1910	89.1	87.0	2.1	9.8	1.1
Mountain:					
General population: 1920	96.3	82.7	13.6	0.9	2.8
Deaf-mutes: 1920	97.9	91.2	6.7	0.1	1.9
Deaf-mutes: 1910	96.3	87.8	8.5	1.1	2.6
Pacific:					
General population: 1920	96.2	77.6	18.6	0.9	3.0
Deaf-mutes: 1920	98.6	88.8	9.8	0.4	0.9
Deaf-mutes: 1910	98.8	88.5	10.3	0.2	1.0

[1] Less than one-tenth of 1 per cent.

These proportions correspond to a very limited extent with the proportions for the population as a whole. Native whites constitute a larger proportion in the total deaf-mute population than in the general population, in every division, notably in the three southern divisions. The foreign-born whites, on the other hand, have generally about half as large a proportion of deaf-mutes as of the total population, except in the New England, East North Central, West North Central, and East South Central divisions. Negro deaf-mutes are relatively numerous only in the East North Central, West North Central, and South Atlantic divisions, and other colored in the West North Central and the two South Central divisions.

The differences in the distribution of the several race and nativity classes of deaf-mutes over the country are not easy to explain. Probably in large measure they reflect differences among the several groups in different areas as regards their susceptibility to diseases producing deafness. The migration of deaf-mutes to the cities, already referred to, may also have been a factor in some divisions. Since 1910, while the proportion of native whites has increased in each division, the proportion of foreign-born white deaf-mutes has decreased in all divisions except the South Atlantic and East South Central; and the proportion of negro deaf-mutes has decreased in all divisions except the Middle Atlantic, East North Central, and Pacific.

Sex.—Table 9 shows the distribution by race and nativity, of male and of female deaf-mutes returning special schedules in 1920 and 1910, with the ratio of males to females in each group, as compared with the corresponding ratio in the general population.

TABLE 9.—DEAF-MUTES BY RACE, NATIVITY, AND SEX, WITH SEX RATIOS FOR DEAF-MUTES AND FOR THE GENERAL POPULATION, FOR THE UNITED STATES: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

RACE AND NATIVITY	DEAF-MUTES						Males per 100 females in the general population, 1920	EXCESS OF MALES PER 100 FEMALES AMONG DEAF-MUTES AS COMPARED WITH GENERAL POPULATION, 1920	
	Number, 1920		Per cent distribution, 1920		Males per 100 females				
	Male	Female	Male	Female	1920	1910		Number	Per cent
All classes	19,166	15,860	100.0	100.0	120.8	121.5	104.0	16.8	16.2
White	18,317	15,110	95.6	95.3	121.2	121.7	104.4	16.8	16.1
Native	16,825	13,980	87.8	88.1	120.4	120.9	101.7	18.7	18.3
Foreign-born	1,492	1,130	7.8	7.1	132.0	128.3	121.7	10.3	8.5
Negro	786	701	4.1	4.4	112.1	120.4	99.2	12.9	13.0
Other colored	63	49	0.3	0.3	(1)	(1)	156.6		

[1] Ratio not shown, the number of females being less than 100.

Among deaf-mutes the foreign-born whites are the only group with a higher proportion for males than for females. The number of males to 100 females is also considerably greater for foreign-born whites than for any other class, though in fact the excess of males for this group, as compared with the general population, is actually the least of all. In other words, while the ratio of males to females is high, this ratio is not as high as would be expected from the great excess of males among this class in the general population. Negroes have the smallest number of males to 100 females, corresponding somewhat to the low sex ratio for this class in the general population. Since 1910 the number of males to 100 females has increased to some extent among foreign-born white deaf-mutes; the ratio has decreased considerably among negroes, and slightly among native whites.

AGE AT ENUMERATION

Historical comparison.—Table 10 gives the distribution by age of deaf-mutes returning special schedules for 1920 and 1910, together with the per cent distribution of the general population by age in 1920.

TABLE 10.—DEAF-MUTES BY AGE, FOR THE UNITED STATES: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

AGE	DEAF-MUTES			Per cent distribution of general population, 1920
	Number, 1920	Per cent distribution		
		1920	1910	
All ages	35,026			
Age reported	34,661	100.0	100.0	100.0
Under 20 years	13,900	40.1	37.3	40.8
Under 5 years	300	0.9	1.6	11.0
Under 1 year	4	(1)	(1)	2.1
1 to 4 years	296	0.9	1.6	8.8
5 to 9 years	3,496	10.1	9.7	10.8
10 to 14 years	5,319	15.3	13.4	10.1
15 to 19 years	4,785	13.8	12.6	8.9
20 to 59 years	18,369	53.0	56.0	51.7
20 to 24 years	3,114	9.0	10.8	8.8
25 to 29 years	2,823	8.1	8.9	8.6
30 to 34 years	2,720	7.8	7.0	7.6
35 to 39 years	2,483	7.2	7.9	7.4
40 to 44 years	1,900	5.5	7.0	6.0
45 to 49 years	2,090	6.0	6.5	5.5
50 to 54 years	1,833	5.3	4.7	4.5
55 to 59 years	1,406	4.1	3.2	3.4
60 years and over	2,392	6.9	6.7	7.5
60 to 64 years	1,008	2.9	2.5	2.8
65 to 69 years	613	1.8	2.0	2.0
70 to 74 years	409	1.2	1.1	1.3
75 to 79 years	215	0.6	0.6	0.8
80 to 84 years	91	0.3	0.3	0.4
85 years and over	56	0.2	0.2	0.2
Age not reported	365			

[1] Less than one-tenth of 1 per cent.

In comparing the age distribution of deaf-mutes with that of the general population, the most striking feature is the relatively small number of deaf-mutes in the years of infancy and early childhood, and the comparatively large number in the years of later childhood and youth.

The proportions under 20 years of age for the two classes differ but slightly, that for deaf-mutes being 40.1 per cent and that for the general population 40.8 per cent. Throughout most of adult life also the proportions are in general agreement. From 20 to 59 the proportion for deaf-mutes is slightly greater, or 53 per cent, as against 51.7 per cent. For the group 60 and over the percentage is greater for the general population, or 7.5, as against 6.9 for deaf-mutes.

Only 0.9 per cent of deaf-mutes are under 5 years of age, as against 11 per cent for the population in general, a proportion twelve times as great. The proportion of reported deaf-mute children under 1 year of age is less than one-tenth of 1 per cent. The actual proportion is probably greater, however, as it is difficult to determine whether a very young child is a deaf-mute. Furthermore, a deaf child's relatives are usually reluctant to admit the existence of deaf-mutism. The census returns are thus probably incomplete with respect to children in the earliest years.

From 5 to 9 the proportion for deaf-mutes is but little below that for the population at large. From 10 to 19, or in youth generally, deaf-mutes show a considerably higher proportion than the general population. At 20, or with the beginning of adult life, and for most of this period of life, the proportions, though now larger for one group and now larger for the other, are similar on the whole, and there is a steady decline for both with advancing age. For the age groups above 65 the proportion for the general population slightly exceeds that for deaf-mutes. It is probable that the actual proportions of deaf-mutes belonging to older age groups are even smaller than these figures indicate, as the incompleteness of the returns for those in early life would tend to exaggerate the number for all older age groups.

The relatively small proportion of deaf-mutes in old age is also due, at least in part, to the lowered vitality of many deaf-mutes, resulting largely from the diseases which caused their deafness. In other words, deaf-mutes as a class probably are shorter-lived than other persons. (See p. 44.)

The proportions of deaf-mutes at different ages as reported in 1920 show little variation from those of 1910, the main divergence being the somewhat smaller proportion under 5 years in 1920. At the age period under 20 years and at 60 years and over the proportions increased somewhat, and for the period from 20 to 59 years the proportion decreased.

Table 11 shows the number and the per cent distribution by age of deaf-mutes, from 1860, the first year that statistics were obtained on the subject, to 1920. These statistics must be used with caution, because changes in the methods of enumeration raise some doubt as to the degree of their comparability.

TABLE 11.—DEAF-MUTES BY AGE, FOR THE UNITED STATES: 1860 TO 1920

AGE	1920	1910 [1]	1900 [2]	1890	1880	1870	1860
	NUMBER						
All ages	35,026	19,153	24,369	40,592	33,878	16,205	12,821
Under 5 years	300	303	858	940	941	407	474
Under 1 year	4	3	(3)	(3)	30	12	14
1 to 4 years	296	300	(3)	(3)	911	395	460
5 to 9 years	3,496	1,850	2,658	4,466	4,253	2,051	1,583
10 to 14 years	5,319	2,569	3,253	5,224	5,337	3,037	2,210
15 to 19 years	4,785	2,403	3,058	5,681	5,020	2,560	2,124
20 to 39 years	11,140	6,632	8,609	13,941	10,526	5,056	3,882
40 to 59 years	7,229	4,097	4,329	6,672	4,906	2,194	1,892
60 years and over	2,392	1,272	1,481	3,152	2,895	845	623
Age not reported	365	27	123	516	----------	55	33
	PER CENT DISTRIBUTION [4]						
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 5 years	0.9	1.6	3.5	2.3	2.8	2.5	3.7
Under 1 year	(5)	(5)	(3)	(3)	0.1	0.1	0.1
1 to 4 years	0.9	1.6	(3)	(3)	2.7	2.4	3.6
5 to 9 years	10.1	9.7	11.0	11.1	12.6	12.7	12.4
10 to 14 years	15.3	13.4	13.4	13.0	15.8	18.8	17.3
15 to 19 years	13.8	12.6	12.6	14.2	14.8	15.9	16.6
20 to 39 years	32.1	34.7	35.5	34.8	31.1	31.3	30.4
40 to 59 years	20.9	21.4	17.9	16.6	14.5	13.6	14.8
60 years and over	6.9	6.7	6.1	7.9	8.5	5.2	4.9

[1] Deaf-mutes for whom special schedules were returned.
[2] Deaf persons unable to speak at all for whom special schedules were returned.
[3] Separate figures not available.
[4] Based upon the population whose age was reported.
[5] Less than one-tenth of 1 per cent.

The proportion of deaf-mutes reported as under 5 years of age has on the whole shown a considerable decline down to the present. The percentage under 1 year and that for 1 to 4 years have both decreased. The proportion for the age periods from 5 to 19 show, in general, decreases to 1910, but slight increases since that year. From 20 to 29 there were for the most part increases to 1910, but a slight decrease thereafter. For the period 60 years and over there was an increase up to the year 1880, a decrease from that year to 1900, and a slight increase since that time. The campaign of medical science against those diseases which produce deafness, and which generally occur in the very early years of life, while not wholly successful, is undoubtedly making headway; and there is no reason to believe that there has been any slackening of effort. On the contrary, this campaign has become increasingly effective. Indeed, it is probable, despite some apparent increases since 1910, that there has been a continuous decrease in the actual proportion of deaf-mutes in childhood and youth.

Table 12 shows the median age of deaf-mutes and of the population at large from 1860 to 1920. The median age is that which divides the population into two equal groups, one-half being younger and one-half older than the median.

TABLE 12.—MEDIAN AGE OF DEAF-MUTES AND OF THE GENERAL POPULATION, FOR THE UNITED STATES: 1860 TO 1920

CENSUS YEAR	MEDIAN AGE [1]	
	Deaf-mutes	General population
1920	[2] 25.6	25.2
1910	[2] 26.1	24.0
1900	[3] 25.1	22.9
1890	23.9	21.4
1880	21.6	20.9
1870	20.1	20.1
1860	20.0	19.4

[1] Based upon the population whose age was reported.
[2] Deaf-mutes for whom special schedules were returned.
[3] Deaf persons unable to speak at all for whom special schedules were returned.

The median ages of the two groups have advanced in general at closely similar rates in the 60 years considered. The advance for deaf-mutes has been from 20 years in 1860 to 25.6 years in 1920, an increase of 5.6 years; the change for the general population has been from 19.4 years in 1860 to 25.2 years in 1920, a rise of 5.8 years. The forces that are lengthening the span of life for the population at large, especially the increasingly effective control of disease, through more general and more efficient preventive measures, more skilled treatment, and better sanitary and living conditions, have evidently been effective with respect to deaf-mutes as well as with respect to the rest of the population.

Geographic divisions.—Table 13 shows the age distribution of the deaf-mutes for whom special schedules were returned in 1920, in the different geographic divisions.

The largest proportions in childhood and youth are found in the Mountain, New England, and the three southern divisions; the largest proportions in early and middle adult life are found in the two North Central divisions and the Pacific division; and by far the highest proportions in advanced life are found in New England. Probably, to a large extent, these differences merely reflect variations in the distribution by age of the population as a whole and differences in the completeness with which deaf-mutes of various age groups were reported. The variations are also affected by differences with respect to the age at which deafness occurs in different parts of the country. Where exceptionally large proportions become deaf in infancy, there is, of course, greater likelihood of a relatively large number of deaf-mutes at all the younger ages. In particular, the high percentages of young deaf-mutes in the South are largely due to the unusual prevalence of congenital deafness in this section, as compared with other parts of the country. (See p. 35.)

TABLE 13.—DEAF-MUTES BY AGE, BY GEOGRAPHIC DIVISIONS: 1920

[Figures include only deaf-mutes returning special schedules]

AGE	United States	GEOGRAPHIC DIVISIONS								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
	NUMBER									
All ages	35,026	2,655	6,952	8,874	4,638	4,102	2,605	2,680	924	1,596
Under 20 years	13,900	1,161	2,943	3,043	1,575	1,793	1,163	1,171	414	637
Under 5 years	300	18	56	74	40	37	34	24	5	12
5 to 9 years	3,496	288	764	874	353	400	295	251	98	173
10 to 14 years	5,319	448	1,046	1,158	596	768	420	484	165	234
15 to 19 years	4,785	407	1,077	937	586	588	414	412	146	218
20 to 59 years	18,369	1,214	3,434	5,074	2,693	2,037	1,255	1,341	461	860
20 to 29 years	5,937	360	1,043	1,402	822	814	468	573	172	283
30 to 39 years	5,203	301	896	1,465	785	613	373	400	129	241
40 to 49 years	3,990	316	816	1,190	603	328	238	214	102	183
50 to 59 years	3,239	237	679	1,017	483	282	176	154	58	153
60 years and over	2,392	260	506	692	343	218	139	109	39	86
60 to 69 years	1,621	162	329	481	246	149	94	74	31	55
70 to 79 years	624	76	139	177	74	57	40	31	6	24
80 years and over	147	22	38	34	23	12	5	4	2	7
Age not reported	365	20	69	65	27	54	48	59	10	13
	PER CENT DISTRIBUTION [1]									
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	40.1	44.1	42.8	34.5	34.2	44.3	45.5	44.7	45.3	40.2
Under 5 years	0.9	0.7	0.8	0.8	0.9	0.9	1.3	0.9	0.5	0.8
5 to 9 years	10.1	10.9	11.1	9.9	7.7	9.9	11.5	9.6	10.7	10.9
10 to 14 years	15.3	17.0	15.2	13.1	12.9	19.0	16.4	18.5	18.1	14.8
15 to 19 years	13.8	15.4	15.6	10.6	12.7	14.5	16.2	15.7	16.0	13.8
20 to 59 years	53.0	46.1	49.9	57.6	58.4	50.3	49.1	51.2	50.4	54.3
20 to 29 years	17.1	13.7	15.2	15.9	17.8	20.1	18.3	21.9	18.8	17.9
30 to 39 years	15.0	11.4	13.0	16.6	17.0	15.1	14.6	15.3	14.1	15.2
40 to 49 years	11.5	12.0	11.9	13.5	13.1	8.1	9.3	8.2	11.2	11.6
50 to 59 years	9.3	9.0	9.9	11.5	10.5	7.0	6.9	5.9	6.3	9.7
60 years and over	6.9	9.9	7.4	7.9	7.4	5.4	5.4	4.2	4.3	5.4
60 to 69 years	4.7	6.1	4.8	5.5	5.3	3.7	3.7	2.8	3.4	3.5
70 to 79 years	1.8	2.9	2.0	2.0	1.6	1.4	1.6	1.2	0.7	1.5
80 years and over	0.4	0.8	0.6	0.4	0.5	0.3	0.2	0.2	0.2	0.4

[1] Based upon the number whose age was reported.

Sex, race, and nativity.—Table 14 shows the distribution by age of male and female deaf-mutes in 1920 and the number of males per 100 females for 1920 and 1910, as compared with the ratio in the general population.

TABLE 14.—DEAF-MUTES BY AGE AND SEX, WITH SEX RATIOS FOR DEAF-MUTES AND FOR THE GENERAL POPULATION, FOR THE UNITED STATES: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

AGE	DEAF-MUTES						Males per 100 females in the general population, 1920	EXCESS OF MALES PER 100 FEMALES AMONG DEAF-MUTES AS COMPARED WITH GENERAL POPULATION, 1920	
	Number, 1920		Per cent distribution, 1920 [1]		Males per 100 females				
	Male	Female	Male	Female	1920	1910		Number	Per cent
All ages	19,166	15,860	100.0	100.0	120.8	121.5	104.0	16.8	16.2
Under 20 years	7,390	6,510	38.9	41.5	113.5	122.2	101.2	12.3	12.2
Under 5 years	158	142	0.8	0.9	111.3	118.0	102.5	8.8	8.6
5 to 9 years	1,832	1,664	9.6	10.6	110.1	121.6	101.9	8.2	8.0
10 to 14 years	2,870	2,449	15.1	15.6	117.2	120.3	101.8	15.4	15.1
15 to 19 years	2,530	2,255	13.3	14.4	112.2	125.4	98.3	13.9	14.1
20 to 59 years	10,319	8,050	54.3	51.4	128.2	122.5	105.9	22.3	21.1
20 to 29 years	3,330	2,607	17.5	16.6	127.7	127.3	97.5	30.2	31.0
30 to 39 years	2,944	2,259	15.5	14.4	130.3	113.1	107.4	22.9	21.3
40 to 49 years	2,193	1,797	11.5	11.5	122.0	120.3	112.2	9.8	8.7
50 to 59 years	1,852	1,387	9.8	8.8	133.5	133.6	114.1	19.4	17.0
60 years and over	1,279	1,113	6.7	7.1	114.9	109.6	105.6	9.3	8.8
60 to 69 years	878	743	4.6	4.7	118.2	114.1	111.4	6.8	6.1
70 to 79 years	339	285	1.8	1.8	118.9	103.1	100.1	18.8	18.8
80 yrs. and over	62	85	0.3	0.5	(2)	(2)	82.4	--------	-------
Age not reported	178	187	---------	---------	---------	---------	---------	--------	-------

[1] Based upon the number whose age was reported.

[2] Ratio not shown, the number of females being less than 100.

In practically all age groups in childhood and youth there are relatively more females than males among deaf-mutes; in early and middle adult life, relatively more males; and in old age, relatively more females. The ratios of males to females at different ages among deaf-mutes correspond broadly to the ratios among the general population, but the ratio for deaf-mutes tends to rise at an earlier period in adult life than the ratio for the whole population.

Comparing the figures for deaf-mutes in 1920 and 1910, several important differences are apparent. The number of males per 100 females is decidedly smaller in 1920 than in 1910 for the age groups under 20. An opposite tendency is shown by the adult age groups, most of which have higher ratios of males to females in 1920 than in 1910.

Table 15 shows the distribution by age periods of deaf-mutes belonging to the principal race and nativity classes.

The largest proportions of deaf-mutes in childhood and youth are found among negroes, and the smallest among foreign-born whites; the largest proportions in early and middle adult life are among colored persons other than negroes (mainly Indians), with the next largest among foreign-born whites, and the smallest among native whites and negroes; the largest proportions in old age are among foreign-born whites, and the smallest among the colored, especially those not negroes. The low proportion of foreign-born deaf-mutes in early life is largely explained by the small percentage of young persons among the foreign-born white population in general. The high proportion of older persons among the foreign-born deaf-mutes necessarily follows from the low proportions in earlier age groups.

The high proportion of negroes in early life is probably due to several considerations. As negroes have in general a shorter span of life than whites, they have smaller proportions in the advanced age groups, and correspondingly large proportions in the younger age periods. The age distribution of negro deaf-mutes is also doubtless affected to some extent by the excessive amount of congenital deafness among negroes, which increases the proportions in the younger age groups.

TABLE 15.—DEAF-MUTES BY RACE, NATIVITY, AND AGE, WITH PER CENT DISTRIBUTION BY AGE, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

AGE	All classes	WHITE			Negro	Other colored
		Total	Native	Foreign-born		
	NUMBER					
All ages	35,026	33,427	30,805	2,622	1,487	112
Under 20 years	13,900	13,218	12,715	503	649	33
Under 5 years	300	294	289	5	5	1
5 to 9 years	3,496	3,349	3,288	61	138	9
10 to 14 years	5,319	5,044	4,860	184	270	5
15 to 19 years	4,785	4,531	4,278	253	236	18
20 to 59 years	18,369	17,567	15,852	1,715	726	76
20 to 29 years	5,937	5,604	5,273	331	300	33
30 to 39 years	5,203	4,974	4,544	430	210	19
40 to 49 years	3,990	3,844	3,317	527	134	12
50 to 59 years	3,239	3,145	2,718	427	82	12
60 years and over	2,392	2,344	1,962	382	46	2
60 to 69 years	1,621	1,593	1,358	235	27	1
70 to 79 years	624	609	486	123	14	1
80 years and over	147	142	118	24	5	---------
Age not reported	365	298	276	22	66	1
	PER CENT DISTRIBUTION [1]					
All ages	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	40.1	39.9	41.6	19.3	45.7	29.7
Under 5 years	0.9	0.9	0.9	0.2	0.4	0.9
5 to 9 years	10.1	10.1	10.8	2.3	9.7	8.1
10 to 14 years	15.3	15.2	15.9	7.1	19.0	4.5
15 to 19 years	13.8	13.7	14.0	9.7	16.6	16.2
20 to 59 years	53.0	53.0	51.9	66.0	51.1	68.5
20 to 29 years	17.1	16.9	17.3	12.7	21.1	29.7
30 to 39 years	15.0	15.0	14.9	16.5	14.8	17.1
40 to 49 years	11.5	11.6	10.9	20.3	9.4	10.8
50 to 59 years	9.3	9.5	8.9	16.4	5.8	10.8
60 years and over	6.9	7.1	6.4	14.7	3.2	1.8
60 to 69 years	4.7	4.8	4.4	9.0	1.9	0.9
70 to 79 years	1.8	1.8	1.6	4.7	1.0	0.9
80 years and over	0.4	0.4	0.4	0.9	0.4	---------

[1] Based upon the number whose age was reported.

Table 16 gives the median age, according to race and nativity, of deaf-mutes of both sexes and for each sex separately in 1920 and 1910, and for the general population in 1920.

TABLE 16.—MEDIAN AGE OF DEAF-MUTES AND OF THE GENERAL POPULATION, BY RACE, NATIVITY, AND SEX, FOR THE UNITED STATES: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

RACE AND NATIVITY	MEDIAN AGE [1]								
	Deaf-mutes						General population of the United States, 1920		
	1920			1910					
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All classes	25.6	26.1	24.8	26.1	25.7	26.5	25.2	25.8	24.7
White	25.8	26.4	25.6	26.3	26.0	26.8	25.6	26.1	25.1
Native	24.6	25.2	24.0	25.0	24.8	25.4	22.4	22.4	22.3
Foreign-born	40.6	40.3	41.1	37.6	37.1	38.4	40.0	40.1	39.9
Negro	21.7	22.0	21.3	23.3	23.0	23.8	22.3	22.8	22.0
Other colored	27.1	29.1	24.1	25.0	25.6	24.4	26.0	30.4	20.5

[1] Based upon the population whose age was reported.

For all groups except negroes the median age among deaf-mutes is a trifle above that in the general population. In the general population the median age, for every group, is higher for males than for females, a condition likewise true of deaf-mutes except in the case of foreign-born whites. In 1910 among deaf-mutes the median age for females was the higher, except with colored persons other than negroes. This may indicate either that males among deaf-mutes tend to live longer than females, or that, because of the relatively smaller number of male deaf-mutes in early life, deafness in youth is being prevented more successfully with males than with females. The latter explanation agrees with that already indicated by the decreased ratio of males to females during the decade from 1910 to 1920.

AGE WHEN DEAFNESS OCCURRED

We have already seen that the classification of a person as "deaf-mute" depends almost altogether upon the age at which hearing was lost. A person who has retained his hearing long enough to have acquired speech will generally be able to use normal or almost normal speech during the remainder of life. In a study of deaf-mutism, therefore, primary consideration is to be given to the age at which deafness occurred.

Sex.—In Table 17 is shown the distribution, by sex and by age when deafness occurred, of deaf-mutes returning special schedules in 1920 and the ratio of males to females at the different ages.

TABLE 17.—DEAF-MUTES, BY SEX AND AGE, WHEN HEARING WAS LOST, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	NUMBER			PER CENT DISTRIBUTION			Males per 100 females
	Both sexes	Male	Female	Both sexes	Male	Female	
Total	35,026	19,166	15,860	100.0	100.0	100.0	120.8
Deafness congenital	13,513	7,282	6,231	38.6	38.0	39.3	116.9
Deafness acquired [1]	21,513	11,884	9,629	61.4	62.0	60.7	123.4
At age of—							
Less than 5 years	16,458	9,109	7,349	47.0	47.5	46.3	123.9
Less than 1 year	2,802	1,531	1,271	8.0	8.0	8.0	120.5
1 year	3,973	2,202	1,771	11.3	11.5	11.2	124.3
2 years	4,687	2,617	2,070	13.4	13.7	13.1	126.4
3 years	2,780	1,501	1,279	7.9	7.8	8.1	117.4
4 years	1,759	1,014	745	5.0	5.3	4.7	136.1
Infancy [2]	457	244	213	1.3	1.3	1.3	114.6
5 to 9 years	3,516	1,969	1,547	10.0	10.3	9.8	127.3
5 years	1,323	740	583	3.8	3.9	3.7	126.9
6 years	875	498	377	2.5	2.6	2.4	132.1
7 years	703	403	300	2.0	2.1	1.9	134.3
8 years	514	270	244	1.5	1.4	1.5	110.7
9 years	101	58	43	0.3	0.3	0.3	(3)
Childhood [2]	621	319	302	1.8	1.7	1.9	105.6
10 years or over	250	138	112	0.7	0.7	0.7	123.2
Age not reported	668	349	319	1.9	1.8	2.0	109.4

[1] Includes those for whom the age when hearing was lost was not reported.
[2] Exact age not reported.
[3] Ratio not shown, the number of females being less than 100.

Of course, impaired hearing, even to the degree of total deafness, may occur in later years, but such deafness does not constitute "deaf-mutism" as herein defined. Deaf-mutism is thus decidedly an incidence of childhood, especially of infancy, and usually results from certain "children's diseases." The proportion of deafness, accompanied by the loss of speech, which occurs after the tenth year is insignificant, being only 0.7 per cent in 1920. After the fifth year only a little over one-eighth (12.5 per cent) occurs; and at 3 years or thereafter, only about one-fourth (25.4 per cent).

Considerably over one-third (38.6 per cent) of the deafness causing deaf-mutism is reported as congenital. Possibly, however, this proportion is not altogether correct, for several reasons. Whether a child is actually born deaf or loses its hearing in the first few months of life is not easy to determine, even by means of a medical or other special examination; and in many cases no such examination is made. Deafness which exists at birth may not be recognized immediately, and when recognized may be incorrectly attributed to some sickness. Furthermore, a child's relatives are often reluctant to admit that the child was born deaf. On the other hand, a child born with normal hearing may become deaf from disease in early infancy, and may then be erroneously considered as congenitally deaf.

In the tabulation for 1920 deaf-mutes for whom the age of the loss of hearing was not exactly reported were divided into three classes—those who lost hearing in infancy, those who lost it in childhood, and those who lost it at a more indefinite time.

About one-third of deaf-mutism occurs in the first three years of life—8 per cent the first year, 11.3 per cent the second, and 13.4 per cent the third, besides most of that reported for infancy, or 1.3 per cent. Of all acquired deafness, or deafness not existing at birth, which results in deaf-mutism, possibly at least four-fifths occurs in the first five years of life, and nearly three-fifths in the first three years. After the third year the proportions fall rapidly; after the eighth year they have become negligible. It is not to be understood, however, that deafness does not occur to a considerable extent after this time, but that, as already indicated, in the case of those who become deaf in later years, permanent normal speech has by this time been acquired, so that deafness does not usually result in deaf-mutism.

As between males and females, proportionately more of the latter are congenitally deaf (39.3 per cent as against 38 per cent), and slightly more of the former are adventitiously deaf (62 per cent as against 60.7 per cent). At most ages (after birth) the per cent for males is greater than that for females, but in a few cases it is higher for females. The ratio of males to females is 116.9 for congenital deaf-mutes, and 123.4 for those adventitiously deaf. The number of males per 100 females fluctuates at different ages, though on the whole it is slightly greater for the later years of childhood than for the earlier. This suggests either that males are more susceptible than females to hereditary influences involving deaf-mutism, or that males are more subject than females to infantile diseases producing deafness. The latter supposition seems, in the present state of our knowledge, the more likely one. Among the general population there is a higher death rate for males than for females from most of the diseases which cause deafness, a circumstance that seems to indicate that males are more susceptible to these diseases than females.

In Table 18 the special likelihood of the occurrence of deafness in the earliest years of life is indicated from a somewhat different point of view. This table shows, for 1920 and 1910, the distribution, by age when deafness occurred, of deaf-mutes from 5 to 19 years of age, or in childhood and youth, who had lost their hearing when less than 7 years of age. This basis of comparison eliminates the effects of any possible changes in the relative incidence of congenital and adventitious deafness, and of any variations in the respective death rates for congenital deaf-mutes and for those whose deafness is acquired.

The findings here are very similar to those of the preceding table. Over one-fourth (27.1 per cent) of the deaf-mutes in question lost hearing in the second year of life; almost one-fourth (23.8 per cent) in the third year; and one-fifth (20.1 per cent) in the first year. Not far from three-fourths (71 per cent) lost their hearing in the first 3 years; over four-fifths (83.3 per cent) in the first 4 years; and over nine-tenths (90.7 per cent) in the first 5 years. In 1910 the incidence of deafness at these ages was apparently very similar.

TABLE 18.—DEAF-MUTES 5 TO 19 YEARS OF AGE REPORTED AS HAVING LOST HEARING WHEN LESS THAN 7 YEARS OF AGE, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	NUMBER		PER CENT DISTRIBUTION	
	1920	1910	1920	1910
Total	6,119	3,453	100.0	100.0
Under 1 year	1,227	672	20.1	19.5
1 year	1,658	976	27.1	28.3
2 years	1,454	826	23.8	23.9
3 years	750	449	12.3	13.0
4 years	454	250	7.4	7.2
5 years	339	176	5.5	5.1
6 years	237	104	3.9	3.0

Historical comparison.—In Table 19 are shown the number and percentage of deaf-mutes whose deafness was reported as congenital, for all the census years since 1880.

TABLE 19.—PROPORTION OF DEAF-MUTES CONGENITALLY DEAF, FOR THE UNITED STATES: 1880 TO 1920

CENSUS YEAR	Total deaf-mutes	REPORTING DEAFNESS AS CONGENITAL	
		Number	Per cent of total
1920 [1]	34,358	13,513	39.3
1910 [1]	18,407	7,533	40.9
1900 [2]	37,361	14,474	38.7
1890 [3]	37,204	16,866	45.3
1880 [4]	22,473	12,155	54.1

[1] Deaf-mutes for whom special schedules were returned.
[2] Deaf for whom special schedules were returned less than 8 years of age when hearing was lost.
[3] Deaf persons unable to speak at all.
[4] Deaf-mutes, exclusive of those reported as 16 years of age or over when hearing was lost.

From 1880 to 1900 there was a steady decrease in congenital deafness. The proportion apparently reached its lowest point in 1900, and there was no significant change from 1900 to 1920. The proportion in 1880 was over one-half (54.1 per cent), and in 1920 a little under two-fifths (39.3 per cent). It is not likely, however, that the actual decrease has been as great as thus indicated. It is probable, rather, that in recent years the cause of deafness has been diagnosed more accurately, with the result that a definite cause, perhaps one operating after birth, has been more frequently ascertained and reported. Yet it seems probable, from the range in the percentages, that there has been a real decrease in congenital deaf-mutism.[13] This hypothesis is encouraging, since it means that a greater proportion of cases of deaf-mutism are adventitious and are thus more often preventable or curable by proper treatment. Hence deaf-mutism as a whole may be expected to decline.

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[13] In certain schools for the deaf in the United States, over a series of years, a decrease is also found in the proportion of pupils who are congenitally deaf. See Harry Best, The Deaf: Their Position in Society and the Provision for Their Education in the United States, 1914, p. 58.

Table 20 shows the number and the percentage of deaf-mutes losing hearing in each year of life under 8 years, as reported in the census years 1880, 1910, and 1920, the only enumerations which afford figures comparable in this connection. The table also shows separate percentages based upon the number whose deafness was acquired; this limitation of the data to persons whose deafness was not congenital but occurred before the eighth year makes possible further helpful comparisons.

TABLE 20.—DEAF-MUTES REPORTED AS CONGENITALLY DEAF OR LESS THAN 8 YEARS OF AGE WHEN HEARING WAS LOST, FOR THE UNITED STATES: 1920, 1910, AND 1880

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	NUMBER			PER CENT DISTRIBUTION					
				Entire group			Reporting deafness as acquired		
	1920	1910	1880	1920	1910	1880	1920	1910	1880
Total	32,415	18,160	21,182	100.0	100.0	100.0	--------	--------	--------
Deafness congenital	13,513	7,533	12,155	41.7	41.5	57.4	--------	--------	--------
Deafness acquired	18,902	10,627	9,027	58.3	58.5	42.6	100.0	100.0	100.0
At age of—									
Less than 1 year	2,802	1,628	1,009	8.6	9.0	4.8	14.8	15.3	11.2
1 year	3,973	2,375	1,275	12.3	13.1	6.0	21.0	22.3	14.1
2 years	4,687	2,606	2,447	14.5	14.4	11.6	24.8	24.5	27.1
3 years	2,780	1,572	1,569	8.6	8.7	7.4	14.7	14.8	17.4
4 years	1,759	959	989	5.4	5.3	4.7	9.3	9.0	11.0
5 years	1,323	714	806	4.1	3.9	3.8	7.0	6.7	8.9
6 years	875	454	540	2.7	2.5	2.5	4.6	4.3	6.0
7 years	703	319	392	2.2	1.8	1.9	3.7	3.0	4.3

From 1880 to 1910 there was a distinct decrease in the proportion of congenital deafness, followed by a very slight and probably insignificant increase for 1920. There is a corresponding opposite movement in the percentage for those whose deafness was acquired, the increase being generally more marked at the earlier ages. In adventitious deafness, between 1910 and 1920, however, there are decreases in the very earliest years. Thus it appears that greater progress has been made in controlling the diseases that cause deafness in infancy rather than those that cause it in childhood, though the entire comparison is affected to a great extent by the failure to differentiate properly in many cases between congenital deafness and deafness which is acquired in early infancy. The differences between 1910 and 1920, which in general are in contrast with the trend before 1910 are, however, comparatively slight, and possibly are little more than the reflection of inaccurate reporting for the earlier years, at the censuses prior to 1910.

Geographic divisions.—Table 21 shows, for 1920, in the several geographic divisions, the total number of deaf-mutes distributed according to age of loss of hearing, together with the percentage which congenital deaf-mutes constitute of all those reporting.

TABLE 21.—DEAF-MUTES BY AGE WHEN HEARING WAS LOST, BY GEOGRAPHIC DIVISIONS: 1920

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	United States	GEOGRAPHIC DIVISIONS								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
	NUMBER									
Total	35,026	2,655	6,952	8,874	4,638	4,102	2,605	2,680	924	1,596
Deafness congenital	13,513	966	2,529	2,988	1,535	2,138	1,295	1,251	320	491
Deafness acquired [1]	21,513	1,689	4,423	5,886	3,103	1,964	1,310	1,429	604	1,105
At age of—										
Less than 5 years	16,458	1,270	3,384	4,504	2,449	1,427	952	1,126	490	856
Less than 1 year	2,802	195	513	739	418	280	174	231	102	150
1 year	3,973	293	747	1,120	634	354	234	266	110	215
2 years	4,687	366	1,012	1,278	705	354	259	314	130	269
3 years	2,780	232	614	764	396	249	171	164	79	111
4 years	1,759	163	366	499	243	140	80	130	53	85
Infancy [2]	457	21	132	104	53	50	34	21	16	26
5 to 9 years	3,516	265	782	985	476	346	203	194	80	185
5 years	1,323	107	292	393	156	127	84	75	33	56
6 years	875	55	208	251	109	86	51	42	17	56
7 years	703	58	160	168	126	61	34	44	16	36
8 years	514	42	104	135	77	54	26	32	12	32
9 years	101	3	18	38	8	18	8	1	2	5
Childhood [2]	621	79	87	162	83	53	70	41	16	30
10 years or over	250	14	57	60	22	36	15	23	7	16
Age not reported	668	61	113	175	73	102	70	45	11	18
	PER CENT DISTRIBUTION									
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Deafness congenital	38.6	36.4	36.4	33.7	33.1	52.1	49.7	46.7	34.6	30.8
Deafness acquired [1]	61.4	63.6	63.6	66.3	66.9	47.9	50.3	53.3	65.4	69.2
At age of—										
Less than 5 years	47.0	47.8	48.7	50.8	52.8	34.8	36.5	42.0	53.0	53.6
Less than 1 year	8.0	7.3	7.4	8.3	9.0	6.8	6.7	8.6	11.0	9.4
1 year	11.3	11.0	10.7	12.6	13.7	8.6	9.0	9.9	11.9	13.5
2 years	13.4	13.8	14.6	14.4	15.2	8.6	9.9	11.7	14.1	16.9
3 years	7.9	8.7	8.8	8.6	8.5	6.1	6.6	6.1	8.5	7.0
4 years	5.0	6.1	5.3	5.6	5.2	3.4	3.1	4.9	5.7	5.3
Infancy [2]	1.3	0.8	1.9	1.2	1.1	1.2	1.3	0.8	1.7	1.6
5 to 9 years	10.0	10.0	11.2	11.1	10.3	8.4	7.8	7.2	8.7	11.6
5 years	3.8	4.0	4.2	4.4	3.4	3.1	3.2	2.8	3.6	3.5
6 years	2.5	2.1	3.0	2.8	2.4	2.1	2.0	1.6	1.8	3.5
7 years	2.0	2.2	2.3	1.9	2.7	1.5	1.3	1.6	1.7	2.3
8 years	1.5	1.6	1.5	1.5	1.7	1.3	1.0	1.2	1.3	2.0
9 years	0.3	0.1	0.3	0.4	0.2	0.4	0.3	(3)	0.2	0.3
Childhood [2]	1.8	3.0	1.3	1.8	1.8	1.3	2.7	1.5	1.7	1.9
10 years or over	0.7	0.5	0.8	0.7	0.5	0.9	0.6	0.9	0.8	1.0
Age not reported	1.9	2.3	1.6	2.0	1.6	2.5	2.7	1.7	1.2	1.1

[1] Includes those for whom the age when hearing was lost was not reported.
[2] Exact age not reported.
[3] Less than one-tenth of 1 per cent.

Much the highest proportions of congenital deafness are found in the three southern divisions. In all of these the proportion is about one-half. The congenital deaf-mutes form 52.1 per cent in the South Atlantic division, 49.7 per cent in the East South Central division, and 46.7 per cent in the West South Central division. In no other division of the United States is the proportion of congenital deafness as much as two-fifths. The smallest proportion is found in the Pacific division (30.8 per cent).

The extremely high proportions in the South are in great part due to the large negro population, among whom congenital deafness is relatively more prevalent than among whites. Negroes, as already indicated, are less susceptible than whites to certain diseases causing deafness. It is to be borne in mind, however, that much deafness which occurs during infancy is incorrectly regarded as congenital, an error which is likely to be most pronounced among negroes.

Another possible factor contributing to the high proportions of congenital deafness in the South may be a greater degree of inbreeding there, for the reason that that section receives a relatively small infusion of new elements from outside. The last-named consideration may also in some measure account for the relatively large proportion of congenital deaf-mutes in the northeastern part of the country, where, for many years certain rural districts have received but few newcomers.[14]

The same considerations may apply, conversely, to the relatively small proportions of congenital deafness on the Pacific coast. It is to be understood, of course, that a high proportion of congenital deafness in a particular section may be chiefly accounted for by a low incidence of adventitious deafness. Though the proportion of congenital deafness was, for the country as a whole, apparently about the same in 1920 as in 1910, five of the divisions have a decreased percentage of congenital deafness.

Table 22 shows the percentage congenitally deaf of the total number of deaf-mutes in each geographic division, for the census years 1890 to 1920.

TABLE 22.—PROPORTION OF DEAF-MUTES CONGENITALLY DEAF, BY GEOGRAPHIC DIVISIONS: 1890 TO 1920

GEOGRAPHIC DIVISION	PER CENT CONGENITALLY DEAF AMONG DEAF-MUTES [1]			
	1920 [2]	1910 [2]	1900 [3]	1890 [4]
United States	39.3	40.9	38.7	45.3
New England	37.2	39.9	35.6	44.6
Middle Atlantic	37.0	37.0	34.5	42.0
East North Central	34.3	34.7	31.7	37.3
West North Central	33.6	34.2	31.8	36.9
South Atlantic	53.5	57.9	54.9	61.4
East South Central	51.1	53.1	51.4	60.7
West South Central	47.5	47.1	47.5	53.3
Mountain	35.0	32.9	33.6	41.6
Pacific	31.1	29.9	32.8	37.3

[1] Based upon the number for whom the age when hearing was lost was reported.
[2] Figures relate to deaf-mutes for whom special schedules were returned.
[3] Figures relate to deaf population for whom special schedules were returned and who were less than 8 years of age when hearing was lost.
[4] Figures relate to deaf who were unable to speak.

In every division there has been a decrease in congenital deafness in this period. During this period the South Atlantic, East South Central, West South Central, New England, and Middle Atlantic divisions all retain, in the order named, their ranking as the five divisions having the greatest proportions of congenital deafness. The Mountain and East North Central divisions, though with some fluctuations, remain in 1920 where they stood in 1890, namely, in the sixth and seventh positions, respectively. The West North Central and the Pacific divisions, likewise with fluctuations, have changed positions, the former having given last place to the latter.

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[14] As shown later, congenital deafness is especially common among persons whose parents are related by blood. (See p. 138.)

The decreases in congenital deafness, however, have not been at a uniform rate. On the whole, during this period of 30 years, the largest decreases occurred in the East South Central, South Atlantic, and New England divisions, while the smallest decreases were registered for the two North Central divisions. It is to be noted that between 1910 and 1920 there has been a practically unchanged percentage in the Middle Atlantic division (36.97 per cent in 1920 and 36.88 in 1910), a decrease in the proportion of congenital deafness in the two North Central and the East South Central divisions, and a considerable decline in the New England and South Atlantic divisions. In general, there is shown a decrease in congenital deafness since 1890 in the eastern sections of the country, and an increase in the western sections. This may very naturally be the case. As the newer sections of the country become more settled and more populated, conditions existing in older regions are likely to be duplicated in greater or less degree, these conditions including any possible results of inbreeding so far as they relate to congenital deafness. It is quite possible, also, that the situation has been affected to some extent by the northward migration of negroes, among whom congenital deafness is relatively more extensive.

Race, nativity, and sex.—Table 23 shows the percentage congenitally deaf among all deaf-mutes, for each of the chief race and nativity groups, for 1920 and 1910.

TABLE 23.—PROPORTION OF DEAF-MUTES CONGENITALLY DEAF, BY RACE AND NATIVITY, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

RACE AND NATIVITY	Total number, 1920	CONGENITALLY DEAF		
		Number, 1920	Per cent of total [1]	
			1920	1910
All classes	35,026	13,513	38.6	39.3
White	33,427	12,617	37.7	38.3
Native	30,805	11,819	38.4	39.0
Foreign-born	2,622	798	30.4	31.9
Negro	1,487	838	56.4	55.7
Other colored	112	58	51.8	(2)

[1] Based upon the total number, including those for whom the age when hearing was lost was not reported.

[2] Per cent not shown, base being less than 100.

The proportion of congenital deafness among deaf-mute negroes is somewhat over one-half (56.4 per cent) and a little over one-half (51.8 per cent) among other colored (mainly Indians). The proportion for whites is somewhat over one-third (37.7 per cent). Among this class the proportion is appreciably higher for the native than for the foreign born (38.4 per cent, as against 30.4 per cent). There are two reasons to be advanced for the high proportions of congenital deafness reported among negroes—their relative immunity to adventitious deafness from certain diseases, and the less accurate character of the information obtained from them. The lower proportion of congenital deafness for foreign-born whites than for native whites is probably due to restrictive immigration laws. The deaf-mutes who were admitted under these laws would, in general, comprise an exceptionally small proportion whose deafness is congenital, while many of the immigrants presumably did not lose their hearing until after they had been in this country for some time. Here, too, erroneous reporting as to congenital deafness probably plays some part in the matter. Compared with 1910, the year 1920 shows a very small decrease in congenital deafness among both native whites and foreign-born whites but a slight increase among negroes.

Table 24 gives the proportion of congenital deaf-mutes in the several race and nativity classes, according to sex, for 1920 and 1910.

TABLE 24.—PROPORTION OF DEAF-MUTES CONGENITALLY DEAF, BY RACE, NATIVITY, AND SEX, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

RACE AND NATIVITY	TOTAL NUMBER, 1920		CONGENITALLY DEAF					
			Number, 1920		Per cent of total [1]			
					1920		1910	
	Male	Female	Male	Female	Male	Female	Male	Female
All classes	19, 166	15, 860	7, 282	6, 231	38. 0	39. 3	38. 3	40. 5
White	18, 317	15, 110	6, 804	5, 813	37. 1	38. 5	37. 3	39. 5
Native	16, 825	13, 980	6, 348	5, 471	37. 7	39. 1	38. 0	40. 2
Foreign-born	1, 492	1, 130	456	342	30. 6	30. 3	31. 2	32. 9
Negro	786	701	444	394	56. 5	56. 2	54. 8	56. 7
Other colored	63	49	34	24	([2])	([2])	([2])	([2])

[1] Based upon the total number, including those for whom the age when hearing was lost was not reported.

[2] Per cent not shown, base being less than 100.

The proportion congenitally deaf is greater for females among native whites, but slightly greater for males among foreign-born whites and negroes. In 1910 the proportion for females was greater among all classes.

Table 25 shows the number and per cent distribution of deaf-mutes whose deafness was adventitious, according to age when hearing was lost, by race and nativity classes, for 1920, with comparative percentages for 1910.

Deafness apparently occurs in infancy and early childhood, or in the first 3 years of life, more frequently among whites than among negroes. At 3 years, and thereafter, it occurs more frequently among negroes. The proportion who became deaf at 10 years or over is four times as great for negroes as for native whites. The relatively high proportion of negroes whose deafness is of late occurrence is probably due to lack of adequate medical treatment for diseases which produce deafness in later years. During the first 2 years of life adventitious deafness falls more heavily upon native whites than upon the foreign-born, and at ages thereafter slightly more heavily among the latter, who seem to be less susceptible to the diseases of infancy and earliest childhood which lead to deafness than is the case with the native population.

Between 1910 and 1920 there was a decrease, for each race and nativity group, in the proportion of deafness occurring under 5 years, with a nearly consistent decrease in each single year; for the period 5 to 9 years and at 10 years or over there was an increase in each group, with a few minor variations.

TABLE 25.—ADVENTITIOUS DEAF-MUTES BY RACE, NATIVITY, AND AGE WHEN HEARING WAS LOST, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	NUMBER					
	All classes	White			Negro	Other colored
		Total	Native	Foreign-born		
Total	21,513	20,810	18,986	1,824	649	54
Under 5 years	16,458	16,033	14,713	1,320	391	34
Under 1 year	2,802	2,728	2,578	150	66	8
1 year	3,973	3,891	3,632	259	75	7
2 years	4,687	4,588	4,176	412	93	6
3 years	2,780	2,692	2,411	281	82	6
4 years	1,759	1,688	1,489	199	65	6
Infancy [1]	457	446	427	19	10	1
5 to 9 years	3,516	3,337	2,938	399	167	12
5 years	1,323	1,256	1,095	161	63	4
6 years	875	838	750	88	34	3
7 years	703	668	582	86	33	2
8 years	514	485	427	58	27	2
9 years	101	90	84	6	10	1
Childhood [1]	621	608	576	32	13	--------
10 years or over	250	217	194	23	28	5
Age not reported	668	615	565	50	50	3

AGE WHEN HEARING WAS LOST	PER CENT DISTRIBUTION [2]							
	1920				1910			
	All classes	White		Negro	All classes	White		Negro
		Native	Foreign-born			Native	Foreign-born	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 5 years	79.0	79.9	74.4	65.3	84.2	85.8	78.0	67.7
Under 1 year	13.4	14.0	8.5	11.0	14.8	15.9	8.1	9.9
1 year	19.1	19.7	14.6	12.5	21.6	22.6	17.0	13.4
2 years	22.5	22.7	23.2	15.5	23.7	24.1	23.0	16.0
3 years	13.3	13.1	15.8	13.7	14.3	13.7	17.6	17.5
4 years	8.4	8.1	11.2	10.9	8.7	8.3	11.6	9.7
Infancy [1]	2.2	2.3	1.1	1.7	1.0	1.1	0.7	1.2
5 to 9 years	16.9	15.9	22.5	27.9	14.5	13.2	20.4	25.9
5 years	6.3	5.9	9.1	10.5	6.5	6.0	9.8	8.7
6 years	4.2	4.1	5.0	5.7	4.1	3.8	5.6	8.5
7 years	3.4	3.2	4.8	5.5	2.9	2.7	3.7	4.7
8 years	2.5	2.3	3.3	4.5	0.7	0.5	1.2	1.9
9 years	0.5	0.5	0.3	1.7	0.3	0.2	0.2	2.1
Childhood [1]	3.0	3.1	1.8	2.2	--------	--------	--------	--------
10 years or over	1.2	1.1	1.3	4.7	1.3	1.0	1.6	6.4

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[1] Exact age not reported.
[2] Based upon the number for whom the age when hearing was lost was reported.

Age at enumeration.—Table 26 gives the number and the per cent distribution of deaf-mutes, by age when hearing was lost, classified according to their age at enumeration.

TABLE 26.—DEAF-MUTES BY AGE AT ENUMERATION AND AGE WHEN HEARING WAS LOST, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	AGE AT ENUMERATION								
	All ages[1]	Under 5 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 44 years	45 to 64 years	65 years and over
	NUMBER								
Total	35,026	300	3,496	5,319	4,785	3,114	9,926	6,337	1,384
Deafness congenital	13,513	182	1,757	2,361	1,927	1,184	3,627	1,793	523
Deafness acquired[2]	21,513	118	1,739	2,958	2,858	1,930	6,299	4,544	861
At age of—									
Less than 5 years	16,458	115	1,458	2,232	2,139	1,550	4,949	3,339	561
Less than 1 year	2,802	30	323	492	412	293	803	365	66
1 year	3,973	48	448	622	588	427	1,096	629	87
2 years	4,687	23	339	528	587	428	1,478	1,106	169
3 years	2,780	3	132	287	331	247	924	704	129
4 years	1,759	4	97	176	181	136	564	486	104
Infancy[3]	457	7	119	127	40	19	84	49	6
5 to 9 years	3,516	------	130	389	409	267	1,073	992	225
5 years	1,323	------	62	136	141	92	423	382	75
6 years	875	------	42	95	100	60	272	241	59
7 years	703	------	18	63	76	61	211	218	50
8 years	514	------	6	62	71	44	149	137	38
9 years	101	------	2	33	21	10	18	14	3
Childhood[3]	621	3	151	184	45	31	118	69	16
10 years or over	250	------	--------	50	71	31	37	41	15
Age not reported	668	------	--------	103	194	51	122	103	44
	PER CENT DISTRIBUTION								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Deafness congenital	38.6	60.7	50.3	44.4	40.3	38.0	36.5	28.3	37.8
Deafness acquired[2]	61.4	39.3	49.7	55.6	59.7	62.0	63.5	71.7	62.2
At age of—									
Less than 5 years	47.0	38.3	41.7	42.0	44.7	49.8	49.9	52.7	40.5
Less than 1 year	8.0	10.0	9.2	9.2	8.6	9.4	8.1	5.8	4.8
1 year	11.3	16.0	12.8	11.7	12.3	13.7	11.0	9.9	6.3
2 years	13.4	7.7	9.7	9.9	12.3	13.7	14.9	17.5	12.2
3 years	7.9	1.0	3.8	5.4	6.9	7.9	9.3	11.1	9.3
4 years	5.0	1.3	2.8	3.3	3.8	4.4	5.7	7.7	7.5
Infancy[3]	1.3	2.3	3.4	2.4	0.8	0.6	0.8	0.8	0.4
5 to 9 years	10.0	------	3.7	7.3	8.5	8.6	10.8	15.7	16.3
5 years	3.8	------	1.8	2.6	2.9	3.0	4.3	6.0	5.4
6 years	2.5	------	1.2	1.8	2.1	1.9	2.7	3.8	4.3
7 years	2.0	------	0.5	1.2	1.6	2.0	2.1	3.4	3.6
8 years	1.5	------	0.2	1.2	1.5	1.4	1.5	2.2	2.7
9 years	0.3	------	0.1	0.6	0.4	0.3	0.2	0.2	0.2
Childhood[3]	1.8	1.0	4.3	3.5	0.9	1.0	1.2	1.1	1.2
10 years or over	0.7	------	--------	0.9	1.5	1.0	0.4	0.6	1.1
Age not reported	1.9	------	--------	1.9	4.1	1.6	1.2	1.6	3.2

[1] Includes those whose age at enumeration was not reported.
[2] Includes those for whom the age when hearing was lost was not reported.
[3] Exact age not reported.

Considered in relation to their age at enumeration, the proportion of congenital deaf-mutes steadily decreases with each advancing period up to the last, when there is a slight rise. Conversely, the proportion of adventitious deaf-mutes increases with advancing age up to 64 years, with a slight decrease in the last broad age group, 65 years and over.

At the earliest years of life the proportion of congenital deaf-mutes is considerably larger than of adventitious. In succeeding years of childhood and youth the differences between the two proportions are reduced. In adult life the proportion of adventitious deaf-mutes increases, becoming especially large for persons in late middle life, or from 45 to 64 years of age. These conditions may possibly be due in some part to more effective prevention, in recent years, of adventitious deafness, as a result of medical progress. It also appears that the earlier the loss of hearing, the smaller is the proportion of deaf-mutes who reach advanced years, another indication of the possible connection between early deafness and the length of the life span.

In Table 27 are shown the number and the percentage distribution, by age when deafness occurred, for native white, foreign-born white, and negro deaf-mutes, classified by age at enumeration.

TABLE 27.—DEAF-MUTES BY RACE, NATIVITY, AND AGE AT ENUMERATION—DISTRIBUTION BY AGE WHEN HEARING WAS LOST, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

RACE, NATIVITY, AND AGE WHEN HEARING WAS LOST	AGE AT ENUMERATION								
	All ages[1]	Under 5 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 44 years	45 to 64 years	65 years and over
	NUMBER								
Native white	30,805	289	3,288	4,860	4,278	2,743	8,625	5,332	1,114
Deafness congenital	11,819	175	1,642	2,126	1,729	1,022	3,129	1,468	417
Deafness acquired[2]	18,986	114	1,646	2,734	2,549	1,721	5,496	3,864	697
At age of—									
Less than 5 years	14,713	111	1,380	2,083	1,923	1,397	4,371	2,881	469
Less than 1 year	2,578	29	307	462	378	259	732	336	58
1 year	3,632	48	422	592	538	390	993	553	71
2 years	4,176	22	325	492	521	392	1,297	963	141
3 years	2,411	2	124	265	288	221	797	584	111
4 years	1,489	4	88	149	162	117	476	401	83
Infancy[3]	427	6	114	123	36	18	76	44	5
5 to 9 years	2,938	------	119	343	355	225	898	800	173
5 years	1,095	------	55	116	117	82	354	301	61
6 years	750	------	38	90	86	52	238	201	41
7 years	582	------	18	58	68	49	166	180	38
8 years	427	------	6	50	65	32	128	108	31
9 years	84	------	2	29	19	10	12	10	2
Childhood[3]	576	3	147	178	40	29	101	64	11
10 years or over	194	------	--------	45	59	27	25	26	11
Age not reported	565	------	--------	85	172	43	101	93	33
Foreign-born white	2,622	5	61	184	253	173	865	816	243
Deafness congenital	798	3	25	83	72	44	247	227	92
Deafness acquired[2]	1,824	2	36	101	181	129	618	589	151
At age of—									
Less than 5 years	1,320	2	29	74	142	93	472	411	87
Less than 1 year	150	------	9	15	21	20	52	26	7
1 year	259	------	7	19	33	22	89	71	16
2 years	412	1	6	17	44	22	158	133	26
3 years	281	------	3	11	31	16	100	102	16
4 years	199	------	2	10	11	13	66	76	21
Infancy[3]	19	1	2	2	2	--------	7	3	1
5 to 9 years	399	------	5	15	26	27	117	158	48
5 years	161	------	3	8	15	8	43	69	13
6 years	88	------	2	1	7	3	27	31	16
7 years	86	------	--------	1	2	9	31	31	12
8 years	58	------	--------	4	1	7	14	26	6
9 years	6	------	--------	1	1	--------	2	1	1
Childhood[3]	32	------	2	1	3	2	16	5	3
10 years or over	23	------	--------	4	2	2	3	8	3
Age not reported	50	------	--------	7	8	5	10	7	10

See footnotes at end of table.

TABLE 27.—DEAF-MUTES BY RACE, NATIVITY, AND AGE AT ENUMERATION—DISTRIBUTION BY AGE WHEN HEARING WAS LOST, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

RACE, NATIVITY, AND AGE WHEN HEARING WAS LOST	AGE AT ENUMERATION								
	All ages [1]	Under 5 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 44 years	45 to 64 years	65 years and over
	NUMBER—continued								
Negro	1,487	5	138	270	236	183	391	173	25
Deafness congenital	838	3	83	149	119	110	227	91	14
Deafness acquired [2]	649	2	55	121	117	73	164	82	11
At age of—									
Less than 5 years	391	2	47	74	67	55	91	45	3
Less than 1 year	66	1	6	15	13	13	14	3	-------
1 year	75	-------	18	11	15	13	12	5	-------
2 years	93	-------	8	19	20	12	22	10	1
3 years	82	1	5	11	10	10	25	16	2
4 years	65	-------	7	16	8	6	17	9	-------
Infancy [3]	10	-------	3	2	1	1	1	2	-------
5 to 9 years	167	-------	6	30	27	14	56	27	4
5 years	63	-------	4	12	9	2	24	10	1
6 years	34	-------	2	3	7	4	7	8	2
7 years	33	-------	-------	4	6	3	14	5	-------
8 years	27	-------	-------	8	4	5	7	2	1
9 years	10	-------	-------	3	1	-------	4	2	-------
Childhood [3]	13	-------	2	5	2	-------	1	-------	2
10 years or over	28	-------	-------	1	9	1	6	7	1
Age not reported	50	-------	-------	11	12	3	10	3	1
	PER CENT DISTRIBUTION [4]								
Native white	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Deafness congenital	38.4	60.6	49.9	43.7	40.4	37.3	36.3	27.5	37.4
Deafness acquired [2]	61.6	39.4	50.1	56.3	59.6	62.7	63.7	72.5	62.6
At age of—									
Less than 5 years	47.8	38.4	42.0	42.9	45.0	50.9	50.7	54.0	42.1
Less than 1 year	8.4	10.0	9.3	9.5	8.8	9.4	8.5	6.3	5.2
1 year	11.8	16.6	12.8	12.2	12.6	14.2	11.5	10.4	6.4
2 years	13.6	7.6	9.9	10.1	12.2	14.3	15.0	18.1	12.7
3 years	7.8	0.7	3.8	5.5	6.7	8.1	9.2	11.0	10.0
4 years	4.8	1.4	2.7	3.1	3.8	4.3	5.5	7.5	7.5
Infancy [3]	1.4	2.1	3.5	2.5	0.8	0.7	0.9	0.8	0.4
5 to 9 years	9.5	-------	3.6	7.1	8.3	8.2	10.4	15.0	15.5
5 years	3.6	-------	1.7	2.4	2.7	3.0	4.1	5.6	5.5
6 years	2.4	-------	1.2	1.9	2.0	1.9	2.8	3.8	3.7
7 years	1.9	-------	0.5	1.2	1.6	1.8	1.9	3.4	3.4
8 years	1.4	-------	0.2	1.0	1.5	1.2	1.5	2.0	2.8
9 years	0.3	-------	0.1	0.6	0.4	0.4	0.1	0.2	0.2
Childhood [3]	1.9	1.0	4.5	3.7	0.9	1.1	1.2	1.2	1.0
10 years or over	0.6	-------	-------	0.9	1.4	1.0	0.3	0.5	1.0
Age not reported	1.8	-------	-------	1.7	4.0	1.6	1.2	1.7	3.0

See footnotes at end of table

TABLE 27.—DEAF-MUTES BY RACE, NATIVITY, AND AGE AT ENUMERATION—DISTRIBUTION BY AGE WHEN HEARING WAS LOST, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

RACE, NATIVITY, AND AGE WHEN HEARING WAS LOST	AGE AT ENUMERATION								
	All ages [1]	Under 5 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 44 years	45 to 64 years	65 years and over
	PER CENT DISTRIBUTION [4]—continued								
Foreign-born white	100.0	--------	--------	100.0	100.0	100.0	100.0	100.0	100.0
Deafness congenital	30.4	--------	--------	45.1	28.5	25.4	28.6	27.8	37.9
Deafness acquired [2]	69.6	--------	--------	54.9	71.5	74.6	71.4	72.2	62.1
At age of—									
Less than 5 years	50.3	--------	--------	40.2	56.1	53.8	54.6	50.4	35.8
Less than 1 year	5.7	--------	--------	8.2	8.3	11.6	6.0	3.2	2.9
1 year	9.9	--------	--------	10.3	13.0	12.7	10.3	8.7	6.6
2 years	15.7	--------	--------	9.2	17.4	12.7	18.3	16.3	10.7
3 years	10.7	--------	--------	6.0	12.3	9.2	11.6	12.5	6.6
4 years	7.6	--------	--------	5.4	4.3	7.5	7.6	9.3	8.6
Infancy [3]	0.7	--------	--------	1.1	0.8	--------	0.8	0.4	0.4
5 to 9 years	15.2	--------	--------	8.2	10.3	15.6	13.5	19.4	19.8
5 years	6.1	--------	--------	4.3	5.9	4.6	5.0	8.5	5.3
6 years	3.4	--------	--------	0.5	2.8	1.7	3.1	3.8	6.6
7 years	3.3	--------	--------	0.5	0.8	5.2	3.6	3.8	4.9
8 years	2.2	--------	--------	2.2	0.4	4.0	1.6	3.2	2.5
9 years	0.2	--------	--------	0.5	0.4	--------	0.2	0.1	0.4
Childhood [3]	1.2	--------	--------	0.5	1.2	1.2	1.8	0.6	1.2
10 years or over	0.9	--------	--------	2.2	0.8	1.2	0.3	1.0	1.2
Age not reported	1.9	--------	--------	3.8	3.2	2.9	1.2	0.9	4.1
Negro	100.0	--------	100.0	100.0	100.0	100.0	100.0	100.0	-------
Deafness congenital	56.4	--------	60.1	55.2	50.4	60.1	58.1	52.6	-------
Deafness acquired [2]	43.6	--------	39.9	44.8	49.6	39.9	41.9	47.4	-------
At age of—									
Less than 5 years	26.3	--------	34.1	27.4	28.4	30.1	23.3	26.0	-------
Less than 1 year	4.4	--------	4.3	5.6	5.5	7.1	3.6	1.7	-------
1 year	5.0	--------	13.0	4.1	6.4	7.1	3.1	2.9	-------
2 years	6.3	--------	5.8	7.0	8.5	6.6	5.6	5.8	-------
3 years	5.5	--------	3.6	4.1	4.2	5.5	6.4	9.2	-------
4 years	4.4	--------	5.1	5.9	3.4	3.3	4.3	5.2	-------
Infancy [3]	0.7	--------	2.2	0.7	0.4	0.5	0.3	1.2	-------
5 to 9 years	11.2	--------	4.3	11.1	11.4	7.7	14.3	15.6	-------
5 years	4.2	--------	2.9	4.4	3.8	1.1	6.1	5.8	-------
6 years	2.3	--------	1.4	1.1	3.0	2.2	1.8	4.6	-------
7 years	2.2	--------	--------	1.5	2.5	1.6	3.6	2.9	-------
8 years	1.8	--------	--------	3.0	1.7	2.7	1.8	1.2	-------
9 years	0.7	--------	--------	1.1	0.4	--------	1.0	1.2	-------
Childhood [3]	0.9	--------	1.4	1.9	0.8	--------	0.3	--------	-------
10 years or over	1.9	--------	--------	0.4	3.8	0.5	1.5	4.0	-------
Age not reported	3.4	--------	--------	4.1	5.1	1.6	2.6	1.7	-------

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[1] Includes those whose age at enumeration was not reported.
[2] Includes those for whom the age when hearing was lost was not reported.
[3] Exact age not reported.
[4] Per cent not shown where base is less than 100.

No particular differences are noted in the proportions of congenital deafness, as between the native whites and the foreign-born whites, in the earlier age periods, the small numbers involved in the case of foreign-born whites making comparisons valueless. For the periods 15 to 19, 20 to 24, and 25 to 44, native whites have a considerably higher percentage for congenital deafness, but among foreign-born whites the proportion advances somewhat more rapidly toward old age. Among the latter, also, the proportion of adventitious deafness occurring after 4 years increases to a greater extent with advancing years. There is an exceptionally large proportion of congenital deafness among negroes at all age periods. While the figures here can not be regarded as entirely accurate, it is very likely that the higher proportions of congenital deafness among negroes, especially in advanced life, reflect the greater mortality among negroes from the diseases occasioning adventitious deafness, since they receive, in general, less frequent and less skilled medical service than white persons.

The general life expectation of congenital and of adventitious deaf-mutes is contrasted in Table 28, which shows for both classes the percentage distribution at different age periods above 10 years. Though, as would be expected, the proportion of the congenital is larger at the earlier years, the proportion becomes larger for the adventitious in adult life, with the exception of old age.

TABLE 28.—DEAF-MUTES 10 YEARS OF AGE AND OVER—PER CENT DISTRIBUTION BY AGE GROUPS, CLASSIFIED AS TO WHETHER OR NOT CONGENITALLY DEAF, FOR THE UNITED STATES: 1920

AGE GROUP	Total	Congenitally deaf	Adventitiously deaf[1]
10 years and over[2]	100.0	100.0	100.0
10 to 14 years	17.2	20.7	15.2
15 to 19 years	15.5	16.9	14.7
20 to 24 years	10.1	10.4	9.9
25 to 44 years	32.2	31.8	32.4
45 to 64 years	20.5	15.7	23.4
65 years and over	4.5	4.6	4.4

[1] Includes those for whom the age when hearing was lost was not reported.
[2] Includes only those whose age was reported.

Of all the congenitally deaf 10 years of age and over, 48 per cent were under 25 years of age, as compared with 39.8 per cent for the adventitious group. On the other hand, those 25 to 64 years of age formed only 47.5 per cent of the total congenitally deaf, while the corresponding proportion for the adventitiously deaf was 55.8 per cent. This distribution in Table 28, while eliminating the effect of the large number of children among the congenitally deaf, still indicates that that class is a much younger class than the adventitiously deaf.

A comparison of the longevity of native white deaf-mutes with that of the general native white population is attempted in Table 29, in which is given the percentage distribution by age periods from 5 upward (proportions for deaf-mutes under 5 being of less certain reliability), of the general population, of the congenitally deaf, and of those losing hearing under 2 years of age—the latter group being further divided between those losing hearing in the first year of life and those losing it in the second.

In the later periods of life, both in late middle life, or from 45 to 64, and in old age, or after 64, the proportion for each group of deaf-mutes is lower than for the general population. In the general population, one-fifth (20.9 per cent) are 45 or over, while among deaf-mutes whose deafness was congenital and among those losing hearing in the first year, and those losing hearing in the second year of life only about one-sixth (16.3 per cent, 15.6 per cent, and 17.5 per cent, respectively) are so. Of the general population, 4.6 per cent reach old age, or 65 or beyond, while only 3.6 per cent of the congenitally deaf, and only 2.3 per cent and 2 per cent, respectively, of those losing hearing in the first or second years of life, do so. This would seem clearly to indicate that deaf-mutes on the whole, especially the adventitiously deaf, have a shorter span of life than the population at large. Deaf-mutes survive to old age less frequently than do the hearing; and those who become deaf during infancy are shorter-lived than those born deaf. It should not be assumed that deaf-mutism operates directly to shorten the lives of deaf-mutes. The figures here presented do strongly suggest, however, that the conditions and diseases which cause deafness also lead to reduced vitality and lowered resistance to disease.

Table 29.—Native White Deaf-mutes 5 Years of Age and Over Who Were Deaf from Infancy, by Age, for the United States: 1920

[Figures for deaf-mutes include only those returning special schedules]

AGE AT ENUMERATION	NUMBER [1]				PER CENT DISTRIBUTION			
	Deaf-mutes (native white)			General population (native white)	Deaf-mutes (native white)			General population (native white)
	Congenitally deaf	Losing hearing at age of—			Congenitally deaf	Losing hearing at age of—		
		Under 1 year	1 year but under 2 years			Under 1 year	1 year but under 2 years	
5 years and over	11,533	2,532	3,559	70,675,825	100.0	100.0	100.0	100.0
5 to 9 years	1,642	307	422	9,917,361	14.2	12.1	11.9	14.0
10 to 14 years	2,126	462	592	9,037,960	18.4	18.2	16.6	12.8
15 to 19 years	1,729	378	538	7,786,213	15.0	14.9	15.1	11.0
20 to 24 years	1,022	259	390	7,258,497	8.9	10.2	11.0	10.3
25 to 44 years	3,129	732	993	21,930,090	27.1	28.9	27.9	31.0
45 to 64 years	1,468	336	553	11,490,905	12.7	13.3	15.5	16.3
65 years and over	417	58	71	3,254,799	3.6	2.3	2.0	4.6

[1] Includes only those whose age at enumeration was reported.

MARITAL CONDITION

The marital condition of deaf-mutes is an important subject of study, chiefly because deaf-mutism is so often due to hereditary causes. From the eugenic standpoint, the marriage of deaf-mutes, at least in many cases, tends to perpetuate stocks having defective hearing. Furthermore, students of heredity have learned that any characteristic possessed by both parents is even more likely to be transmitted to their children. Hence, the intermarriage of deaf-mutes in general might be expected to increase the probability of deaf-mute offspring. This expectation is borne out by the statistics, presented in a later section of this report, concerning deafness among relatives of the deaf-mutes reported in this census.[15] While no census figures are available concerning the extent to which marriages between deaf-mutes occur, private research has shown that most deaf-mutes marry other deaf-mutes.[16]

Comparison with general population.—Table 30 gives the distribution according to marital condition of male and female deaf-mutes 15 years of age and over returning special schedules for 1920 and 1910, and the corresponding percentage distribution for the general population in 1920. The marital condition of deaf-mutes 15 years of age and over is shown for each geographic division and State in Table 96, page 148.

TABLE 30.—DEAF-MUTES 15 YEARS OF AGE AND OVER, BY SEX AND MARITAL CONDITION, FOR THE UNITED STATES: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

MARITAL CONDITION	NUMBER OF DEAF-MUTES, 1920		PER CENT DISTRIBUTION OF DEAF-MUTES [1]				PER CENT DISTRIBUTION OF GENERAL POPULATION, 1920 [1]	
			1920		1910			
	Male	Female	Male	Female	Male	Female	Male	Female
Total, 15 years and over [2]	14,306	11,605	100.0	100.0	100.0	100.0	100.0	100.0
Single	8,494	6,183	60.4	54.4	68.2	58.6	35.2	27.4
Married, widowed, or divorced	5,569	5,193	39.6	45.6	31.8	41.4	64.8	72.6
Married	5,075	4,486	36.1	39.4	29.4	35.7	59.4	60.7
Widowed	359	594	2.6	5.2	2.0	5.4	4.8	11.2
Divorced	135	113	1.0	1.0	0.4	0.3	0.6	0.8
Marital condition not reported	243	229	--------	--------	--------	--------	--------	-------

[1] Based upon the population whose marital condition was reported.
[2] Includes the small number whose age was not reported.

Marriage is much less frequent among deaf-mutes of either sex than among the population as a whole. The proportion of male deaf-mutes 15 years of age and over who are or have been married is somewhat less than the proportion for females, the respective proportions being two-fifths (39.6 per cent) and a little under one-half (45.6 per cent). With the general population the proportion who are or have been married is about two-thirds (64.8 per cent) in the case of males, and in the case of females a little under three-fourths (72.6 per cent). The fact that marriage among deaf-mutes is not as common as among the general population may be explained in some measure by the fact that deaf-mutes on the average marry at a somewhat later age than the general population. Their school career, for one thing, ordinarily continues to a later age than is the case with hearing persons, often causing the postponement of marriage.

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[15] See pp. 121–142.

[16] See E. A. Fay, Marriages of the Deaf, 1898; Publications of Volta Bureau, especially various writings of A. G. Bell; Harry Best, The Deaf: Their Position in Society and the Provision for their Education in the United States, 1914, p. 55.

The proportions who are widowed are only about one-half as great among deaf-mutes as among the general population. The larger proportion of widows than of widowers in the deaf-mute population simply reflects conditions in the population at large. Widowers are ordinarily more likely to remarry than widows; while at the same time females, since they generally marry at earlier ages and live to greater ages than males, more often survive the breaking, by death, of the marriage relation. The proportion divorced, however, is greater for deaf-mutes than for the general population, in the case of males being almost double. This circumstance leads to the inquiry, which is, however, somewhat outside the range of the present report, whether deaf-mutism is responsible in any degree for the dissolving of the marriage relation.

Deaf-mutes, both male and female, were married to a greater extent in 1920 than in 1910. The proportion divorced for both sexes practically trebled in this 10-year period, an increase much greater than for the population at large.[17]

Sex, race, and nativity.—In Table 31 is shown the marital condition of deaf-mutes according to race and nativity classes, for each sex.

TABLE 31.—DEAF-MUTES 15 YEARS OF AGE AND OVER, BY RACE, NATIVITY, SEX, AND MARITAL CONDITION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND MARITAL CONDITION	All classes	WHITE			Negro	Other colored
		Total	Native	Foreign-born		
	NUMBER [1]					
Males	14,306	13,683	12,330	1,353	567	56
Single	8,494	8,005	7,290	715	447	42
Married, widowed, or divorced	5,569	5,447	4,835	612	109	13
Married	5,075	4,977	4,434	543	86	12
Widowed	359	340	287	53	18	1
Divorced	135	130	114	16	5	--------
Marital condition not reported	243	231	205	26	11	1
Females	11,605	11,057	10,038	1,019	507	41
Single	6,183	5,785	5,298	487	371	27
Married, widowed, or divorced	5,193	5,058	4,541	517	123	12
Married	4,486	4,389	3,964	425	88	9
Widowed	594	567	482	85	25	2
Divorced	113	102	95	7	10	1
Marital condition not reported	229	214	199	15	13	2
	PER CENT DISTRIBUTION [2]					
Males	100.0	100.0	100.0	100.0	100.0	--------
Single	60.4	59.5	60.1	53.9	80.4	--------
Married, widowed, or divorced	39.6	40.5	39.9	46.1	19.6	--------
Married	36.1	37.0	36.6	40.9	15.5	--------
Widowed	2.6	2.5	2.4	4.0	3.2	--------
Divorced	1.0	1.0	0.9	1.2	0.9	--------
Females	100.0	100.0	100.0	100.0	100.0	--------
Single	54.4	53.4	53.8	48.5	75.1	--------
Married, widowed, or divorced	45.6	46.6	46.2	51.5	24.9	--------
Married	39.4	40.5	40.3	42.3	17.8	--------
Widowed	5.2	5.2	4.9	8.5	5.1	--------
Divorced	1.0	0.9	1.0	0.7	2.0	--------

[1] Includes a small number whose age was not reported.

[2] Based upon the number whose marital condition was reported; not shown where base is less than 100.

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[17] See Fourteenth Census reports, 1920, Vol. II, p. 387.

Colored deaf-mutes appear to marry only about half as frequently as do whites. Disregarding the small number of "Other colored," only one-fifth (19.6 per cent) of males and one-fourth (24.9 per cent) of females among negro deaf-mutes have been married, as against two-fifths (40.5 per cent) and a little under one-half (46.6 per cent), respectively, among the whites. In the population at large, negro persons enter into marriage to a slightly greater extent than white persons. The situation probably is due in considerable part to the smaller attendance of negro deaf-mute children at special schools for the deaf, where opportunities are afforded for acquaintance with persons of the opposite sex; to some extent, also, this condition may be due to the relatively lower economic status of negro deaf-mutes, which would tend to discourage marriage among them. Divorce among the negroes is twice as frequent as among whites for females, but it is a little less frequent for males. With both sexes, in the general population, the proportion divorced is a little higher for negroes.

Foreign-born white deaf-mutes, both male and female, marry to a slightly greater extent than native whites, the difference in the per cent, however, not being so great as for the same two groups in the general population. There are several factors which may account for this, factors for the most part peculiar to the marriage customs of the foreign-born. In the first place, the foreign-born population, as a class, is older than the native population, and therefore contains a relatively larger number of persons of marriageable age; at the same time there is a tendency among some of the foreign-born groups to marry at a comparatively early age. In addition, the foreign-born, more often congregated in cities, with more intimate contacts among particular national or racial groups, are generally likely to be thrown together in social relationships. Moreover, the proportion of homeless, "floating" males which exists among certain foreign groups is likely to be much smaller in the case of deaf-mutes. The high proportion widowed among foreign-born deaf-mutes is largely accounted for by the greater average age of foreign-born deaf-mutes and their later marriage. The foreign-born whites have the largest proportion divorced for males and the smallest for females. Among the foreign-born in the general population the proportion divorced is relatively very low for both sexes.

Age.—The age at which deaf-mutes marry is shown in Table 32, giving the number of deaf-mutes 15 years of age and over, of either sex, classified by age and marital condition. Table 33 gives the per cent distribution by marital condition in 1920, as compared with figures for 1910, together with the corresponding distribution for the total population in 1920.

TABLE 32.—DEAF-MUTES 15 YEARS OF AGE AND OVER, BY AGE, SEX, AND MARITAL CONDITION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND MARITAL CONDITION	All ages	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over	Age not reported
Males	14, 306	2, 530	1, 741	1, 589	1, 530	2, 432	2, 226	1, 345	735	178
Single	8, 494	2, 470	1, 573	1, 027	758	1, 006	779	489	278	114
Married, widowed, or divorced	5, 569	8	134	542	756	1, 402	1, 418	833	443	33
Married	5, 075	6	125	521	724	1, 332	1, 300	713	327	27
Widowed	359	2	6	10	14	34	83	100	106	4
Divorced	135	------	3	11	18	36	35	20	10	2
Marital condition not reported	243	52	34	20	16	24	29	23	14	31

TABLE 32.—DEAF-MUTES 15 YEARS OF AGE AND OVER, BY AGE, SEX, AND MARITAL CONDITION, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

SEX AND MARITAL CONDITION	All ages	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over	Age not reported
Females	11, 605	2, 255	1, 373	1, 234	1, 190	1, 951	1, 697	1, 069	649	187
Single	6, 183	2, 181	1, 023	571	455	652	532	386	282	101
Married, widowed, or divorced	5, 193	25	324	653	709	1, 264	1, 148	662	352	56
Married	4, 486	23	314	632	664	1, 166	1, 000	490	151	46
Widowed	594	1	4	11	26	69	122	159	194	8
Divorced	113	1	6	10	19	29	26	13	7	2
Marital condition not reported	229	49	26	10	26	35	17	21	15	30

TABLE 33.—DEAF-MUTES 15 YEARS OF AGE AND OVER—PER CENT DISTRIBUTION[1] BY MARITAL CONDITION, BY AGE AND SEX, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

AGE AND CLASS OF POPULATION	MALE					FEMALE				
		Married, widowed, or divorced					Married, widowed, or divorced			
	Single	Total	Married	Widowed	Divorced	Single	Total	Married	Widowed	Divorced
15 years and over:[2]										
General population: 1920	35. 2	64. 8	59. 4	4. 8	0. 6	27. 4	72. 6	60. 7	11. 2	0. 8
Deaf-mutes: 1920	60. 4	39. 6	36. 1	2. 6	1. 0	54. 4	45. 6	39. 4	5. 2	1. 0
Deaf-mutes: 1910	68. 2	31. 8	29. 4	2. 0	0. 4	58. 6	41. 4	35. 7	5. 4	0. 3
15 to 19 years:										
General population: 1920	97. 9	2. 1	2. 1	(3)	(3)	87. 1	12. 9	12. 6	0. 3	0. 1
Deaf-mutes: 1920	99. 7	0. 3	0. 2	0. 1	------	98. 9	1. 1	1. 0	(3)	(3)
Deaf-mutes: 1910	99. 9	0. 1	0. 1	------	------	98. 9	1. 1	1. 1	------	-----
20 to 24 years:										
General population: 1920	70. 9	29. 1	28. 4	0. 5	0. 2	45. 6	54. 4	52. 4	1. 4	0. 6
Deaf-mutes: 1920	92. 1	7. 9	7. 3	0. 4	0. 2	75. 9	24. 1	23. 3	0. 3	0. 4
Deaf-mutes: 1910	95. 5	4. 5	4. 4	------	0. 1	81. 5	18. 5	17. 8	0. 5	0. 2
25 to 29 years:										
General population: 1920	39. 5	60. 5	58. 8	1. 1	0. 5	23. 1	76. 9	73. 4	2. 6	0. 9
Deaf-mutes: 1920	65. 5	34. 5	33. 2	0. 6	0. 7	46. 7	53. 3	51. 6	0. 9	0. 8
Deaf-mutes: 1910	79. 9	20. 1	19. 6	0. 4	0. 1	56. 2	43. 8	42. 1	1. 5	0. 1
30 to 34 years:										
General population: 1920	24. 2	75. 8	73. 4	1. 8	0. 7	14. 9	85. 1	80. 2	3. 9	1. 0
Deaf-mutes: 1920	50. 1	49. 9	47. 8	0. 9	1. 2	39. 1	60. 9	57. 0	2. 2	1. 6
Deaf-mutes: 1910	60. 8	39. 2	38. 6	0. 3	0. 3	44. 0	56. 0	54. 0	1. 8	0. 2
35 to 44 years:										
General population: 1920	16. 2	83. 8	80. 0	3. 0	0. 9	11. 4	88. 6	80. 3	7. 2	1. 1
Deaf-mutes: 1920	41. 8	58. 2	55. 3	1. 4	1. 5	34. 0	66. 0	60. 9	3. 6	1. 5
Deaf-mutes: 1910	47. 6	52. 4	49. 7	2. 0	0. 7	40. 3	59. 7	55. 3	3. 7	0. 7
45 to 54 years:										
General population: 1920	12. 0	88. 0	81. 2	5. 8	1. 0	9. 6	90. 4	74. 1	15. 3	1. 0
Deaf-mutes: 1920	35. 5	64. 5	59. 2	3. 8	1. 6	31. 7	68. 3	59. 5	7. 3	1. 5
Deaf-mutes: 1910	44. 4	55. 6	52. 4	2. 7	0. 5	40. 8	59. 2	50. 6	8. 2	0. 4
55 to 64 years:										
General population: 1920	9. 8	90. 2	78. 1	11. 2	1. 0	8. 4	91. 6	61. 3	29. 6	0. 8
Deaf-mutes: 1920	37. 0	63. 0	53. 9	7. 6	1. 5	36. 8	63. 2	46. 8	15. 2	1. 2
Deaf-mutes: 1910	48. 0	52. 0	45. 9	5. 3	0. 8	46. 1	53. 9	37. 9	15. 6	0. 4
65 years and over:										
General population: 1920	7. 4	92. 6	64. 9	27. 0	0. 7	7. 1	92. 9	34. 0	58. 5	0. 4
Deaf-mutes: 1920	38. 6	61. 4	45. 4	14. 7	1. 4	44. 5	55. 5	23. 8	30. 6	1. 1
Deaf-mutes: 1910	48. 3	51. 7	36. 3	14. 7	0. 7	46. 8	53. 2	21. 2	31. 7	0. 3

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[1] Based upon the population whose marital condition was reported.
[2] Includes the small number whose age was not reported.
[3] Less than one-tenth of 1 per cent.

At no age period is marriage as common with deaf-mutes as with the population as a whole. Deaf-mutes, furthermore, as already observed, usually marry at more advanced ages than the general population. Although females generally marry at earlier ages than males, their earlier start in the case of deaf-mutes is much less pronounced. Among male deaf-mutes from 15 to 19 years of age marriage is only about one-seventh as frequent as with the general population and among female deaf-mutes only about one-twelfth. Among deaf-mutes 20 to 24 the ratio for males is about one-fourth and for females not quite one-half. With succeeding age periods the disparity between deaf-mutes and the general population, as to the percentage who have been married, constantly decreases, but the gap between them is never closed up, the nearest approach being for those in middle life, when the percentage of married persons among deaf-mutes is somewhat less than two-thirds as large as the percentage in the general population. The proportion who have been married among male deaf-mutes is greater for each successive higher age group up to late middle life, when it decreases, whereas in the general population the increase is continued to the end of life. The circumstance that at the older age periods, or at advanced years, deaf-mutes are married to a relatively less extent, especially in connection with the general movement since 1910, suggests not only that deaf-mutes now marry at younger age periods than formerly, but that the percentage who marry has increased faster among deaf-mutes than among the population as a whole. Doubtless the increasing opportunities for better education, particularly vocational training, among deaf-mutes, has resulted in higher earning capacity and has thereby encouraged marriage, and at earlier age periods.

The proportion widowed remains at all periods less for deaf-mutes than for the general population. The proportion of deaf-mutes who were divorced is relatively greater for both sexes in early middle life and advanced life.

Divorce among deaf-mutes, as shown by the returns, seems to occur more frequently at earlier ages in 1920 than in 1910.

Age when hearing was lost.—In Table 34 are presented the number and per cent distribution by marital condition of male and female deaf-mutes, classified, further, according to age when hearing was lost.

Marriage apparently occurrs to a greater extent among deaf-mutes whose deafness is acquired than among those whose deafness is congenital; in the case of males, the proportion for the former class is over two-fifths (44.1 per cent) and for the latter class, under one-third (31.1 per cent), and, in the case of females, slightly over one-half (50.8 per cent) for the one and a little over one-third (36.5 per cent) for the other. The proportions for those who have been married increase, for both sexes, with the age of the occurrence of deafness in childhood; there is a decrease, however, with males losing hearing after 10 years, the proportion for these being even less than for the congenitally deaf. The proportions widowed show steady increases with the age of the loss of hearing, the proportion among the males who became deaf after 10 years being very high. The proportions divorced, in general, slightly increase with the ages of the occurrence of deafness.

To a certain extent the number of marriages among the different groups is affected by the difference in their age distribution, because the earlier the occurrence of deafness the smaller are the proportions who have attained marriageable age. This factor, on the whole, may be regarded as negligible, however. In general, the later that hearing is lost the greater is the proportion of married deaf-mutes.

TABLE 34.—DEAF-MUTES 15 YEARS OF AGE AND OVER, BY SEX AND AGE WHEN HEARING WAS LOST—DISTRIBUTION BY MARITAL CONDITION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND MARITAL CONDITION	Total	Deafness congenital	DEAFNESS ACQUIRED						
			Total[1]	At less than 5 years of age			At 5 to 9 years of age	At 10 years of age or over	At age not reported
				Total[2]	Less than 2 years[3]	2 to 4 years			
	NUMBER								
Males 15 years of age and over[3]	14, 306	5, 017	9, 289	7, 058	2, 780	4, 278	1, 690	111	288
Single	8, 494	3, 384	5, 110	3, 919	1, 747	2, 172	801	78	226
Married, widowed, or divorced	5, 569	1, 530	4, 039	3, 041	994	2, 047	865	31	48
Married	5, 075	1, 399	3, 676	2, 788	920	1, 868	773	21	43
Widowed	359	97	262	181	53	128	63	10	5
Divorced	135	34	101	72	21	51	29	......	......
Marital condition not reported	243	103	140	98	39	59	24	2	14
Females 15 years of age and over[3]	11, 605	4, 196	7, 409	5, 595	2, 236	3, 359	1, 307	89	277
Single	6, 183	2, 602	3, 581	2, 679	1, 207	1, 472	568	67	202
Married, widowed, or divorced	5, 193	1, 493	3, 700	2, 831	997	1, 834	712	19	65
Married	4, 486	1, 284	3, 202	2, 467	881	1, 586	594	16	57
Widowed	594	178	416	304	90	214	97	2	8
Divorced	113	31	82	60	26	34	21	1	......
Marital condition not reported	229	101	128	85	32	53	27	3	10
	PER CENT DISTRIBUTION[4]								
Males 15 years of age and over	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Single	60. 4	68. 9	55. 9	56. 3	63. 7	51. 5	48. 1	71. 6	82. 5
Married, widowed, or divorced	39. 6	31. 1	44. 1	43. 7	36. 3	48. 5	51. 9	28. 4	17. 5
Married	36. 1	28. 5	40. 2	40. 1	33. 6	44. 3	46. 4	19. 3	15. 7
Widowed	2. 6	2. 0	2. 9	2. 6	1. 9	3. 0	3. 8	9. 2	1. 8
Divorced	1. 0	0. 7	1. 1	1. 0	0. 8	1. 2	1. 7	......	......
Females 15 years of age and over	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	......	100. 0
Single	54. 4	63. 5	49. 2	48. 6	54. 8	44. 5	44. 4	......	75. 7
Married, widowed, or divorced	45. 6	36. 5	50. 8	51. 4	45. 2	55. 5	55. 6	......	24. 3
Married	39. 4	31. 4	44. 0	44. 8	40. 0	48. 0	46. 4	......	21. 3
Widowed	5. 2	4. 3	5. 7	5. 5	4. 1	6. 5	7. 6	......	3. 0
Divorced	1. 0	0. 8	1. 1	1. 1	1. 2	1. 0	1. 6	......	......

[1] Includes those reported as having lost their hearing in infancy and childhood but without statement as to exact age.

[2] Includes those reported as having lost their hearing in infancy but without statement as to exact age.

[3] Includes those whose age was not reported.

[4] Based upon the number for whom marital condition was reported. Per cent not shown where base is less than 100.

If, as appears to be the case,[18] the marriages of congenital deaf-mutes are more likely to result in deaf-mute offspring than the marriages of adventitious deaf-mutes, it is well that comparatively few congenital deaf-mutes are married. The increasing proportion of marriages of deaf-mutes with the advance of the age at which deafness occurred doubtless indicates that in later years of childhood, with a relatively better retention or with the acquisition of speech, and with broader contacts in consequence, including contacts with hearing persons, opportunities for marriage are enlarged.

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[18] See E. A. Fay, Marriages of the Deaf, 1898.

EDUCATION

Deaf-mutes are in greater need of education than almost any other element in the population. Denied human intercourse through the usual channel of the ear, by means of which is conveyed a vast amount of informal, unsystematized knowledge—especially in childhood, the most important educational period in life—deaf-mutes must consequently rely chiefly upon formal, systematized education, communicated by other processes than by sound through the ear, or they will remain with minds in large part blank and unenlightened. For those reasons a special system of education has had to be devised for deaf-mutes. Nor has society done its full duty to them till it has induced or compelled them to take advantage of the educational facilities within their reach.

Attendance at schools of various types.—Table 35 shows the number of deaf-mutes 5 years of age and over returning special schedules in 1920, distributed according to school attendance and the character of the education given, together with the percentage distribution for 1920 and 1910, for both sexes combined and for males and females separately.

Table 35.—Deaf-mutes 5 Years of Age and Over, by Sex and Education, for the United States: 1920 and 1910

[Figures include only deaf-mutes returning special schedules]

EDUCATION	NUMBER, 1920 [1]			PER CENT DISTRIBUTION [2]					
				1920			1910		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Total	34,726	19,008	15,718	100.0	100.0	100.0	100.0	100.0	100.0
Having attended school	30,565	16,891	13,674	88.6	89.5	87.6	84.6	85.4	83.7
Having attended special school for the deaf	29,867	16,513	13,354	86.6	87.5	85.5	82.7	83.5	81.8
Having attended other schools also	4,036	2,286	1,750	11.7	12.1	11.2	3.2	3.2	3.2
Common school only	3,015	1,697	1,318	8.7	9.0	8.4	2.3	2.3	2.3
High school or academy	380	231	149	1.1	1.2	1.0	0.4	0.4	0.4
University or college	138	94	44	0.4	0.5	0.3	0.2	0.2	0.1
Schools of miscellaneous character	344	176	168	1.0	0.9	1.1	0.2	0.2	0.3
Schools of character not reported	159	88	71	0.5	0.5	0.5	0.1	0.1	0.1
Having attended no other school	25,831	14,227	11,604	74.9	75.4	74.3	79.5	80.3	78.5
Reporting no other instruction	25,484	14,055	11,429	73.9	74.5	73.2	78.9	79.7	77.9
Reporting private instruction at home	347	172	175	1.0	0.9	1.1	0.6	0.7	0.6
Not having attended special school for the deaf	698	378	320	2.0	2.0	2.0	1.9	1.8	1.9
Having attended—									
Common school only	511	275	236	1.5	1.5	1.5	1.3	1.2	1.3
High school or academy	44	25	19	0.1	0.1	0.1	0.1	0.1	0.1
University or college	12	8	4	(3)	(3)	(3)	------	------	------
Schools of miscellaneous character	61	28	33	0.2	0.1	0.2	0.4	0.4	0.3
Schools of character not reported	70	42	28	0.2	0.2	0.2	0.1	0.1	0.1
Not having attended school	3,917	1,978	1,939	11.4	10.5	12.4	15.4	14.6	16.3
Reporting private instruction at home	163	63	100	0.5	0.3	0.6	0.6	0.5	0.7
Reporting no instruction	3,754	1,915	1,839	10.9	10.1	11.8	14.8	14.1	15.6
Not reporting as to education	244	139	105	------	------	------	------	------	------

[1] Includes those whose age was not reported.
[2] Based upon the number reporting as to education.
[3] Less than one-tenth of 1 per cent.

Almost nine-tenths (88.6 per cent) of the deaf-mutes of the United States have had some schooling, a proportion that is only a little below that for the general population, though it is to be remembered that as a rule the education of deaf-mutes is of more restricted character than that of hearing persons. Probably the actual extent of education among deaf-mutes is not quite so great as the figures would indicate, since schedules were returned more fully by educated than by uneducated deaf-mutes, by reason of the large number of deaf-mutes located and enumerated through schools and other agencies engaged in work for the deaf.

Nearly all educated deaf-mutes (86.6 per cent) attended the special schools conducted for them, most often at the State institutions, and less often at the day schools established in some cities, and less often still at denominational or other private schools. By far the greater number have had their education exclusively at the special schools. The education received elsewhere than at the special schools in most cases has been acquired before the loss of hearing made special instruction necessary. This education has been principally at the regular common schools, rarely reaching higher grades. Of all deaf-mutes, 10.2 per cent have not gone beyond the common schools (including those who have attended common schools only and those who have attended special schools as well), while 1.2 per cent have reached the high school or academy, and 0.4 per cent have attended a university or college. For 1.2 per cent attendance has been at schools of miscellaneous character—schools for the blind, schools for the feeble-minded, and various unclassified private schools. Home instruction is reported by 1.5 per cent, such instruction being given as a rule by regularly employed private tutors, in addition to the training at a special school, but in some instances being carried on in desultory fashion by members of one's family.

Male deaf-mutes generally take advantage of educational opportunities to a slightly greater extent than do female, 89.5 per cent of the former and 87.6 per cent of the latter reporting school attendance. Female deaf-mutes, however, have both education in miscellaneous schools and home instruction to a slightly greater extent than do male.

Compared with 1910, there has been a distinct increase in the proportion of deaf-mutes who have attended school. This increase probably reflects a growing realization on the part of deaf-mutes of the benefits of education, and also the enactment and increasing effectiveness of compulsory education laws, which are now being made to apply more and more to deaf-mutes. At the same time, it is to be noticed that most of the increase is found among those who have attended special schools for the deaf and other schools as well. This circumstance perhaps means that a greater number of deaf-mutes are finding it to their advantage to abandon the regular schools and enter the special schools. Day schools for the deaf in cities, in which oral work is generally stressed, probably play an important part in the increased school attendance.

The increase in the proportion of deaf-mutes who attended special schools in 1920 as compared with 1910 may also be accounted for in part by the probability that the pupils who attended these schools were more completely reported in 1920 than in 1910.

Geographic divisions.—Table 36 gives for deaf-mutes the distribution by education in 1920, in each geographic division. The distribution for each State is shown in Table 97, page 150.

TABLE 36.—DEAF-MUTES 5 YEARS OF AGE AND OVER, BY EDUCATION, BY GEOGRAPHIC DIVISIONS: 1920

[Figures include only deaf-mutes returning special schedules]

EDUCATION	United States	GEOGRAPHIC DIVISIONS								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
	NUMBER [1]									
Total	34,726	2,637	6,896	8,800	4,598	4,065	2,571	2,656	919	1,584
Having attended school	30,565	2,385	6,259	7,924	4,178	3,263	2,070	2,197	794	1,495
Having attended special school for the deaf	29,867	2,327	6,164	7,730	4,066	3,179	2,010	2,147	773	1,471
Having attended other schools also	4,036	411	836	1,242	545	299	156	199	106	242
Common school only	3,015	336	648	940	415	213	89	130	76	168
High school or academy	380	18	57	130	35	39	27	29	12	33
University or college	138	6	21	41	23	14	10	8	7	8
Schools of miscellaneous character	344	39	69	96	44	23	17	22	7	27
Schools of character not reported	159	12	41	35	28	10	13	10	4	6
Having attended no other school	25,831	1,916	5,328	6,488	3,521	2,880	1,854	1,948	667	1,229
Reporting no other instruction	25,484	1,879	5,267	6,407	3,478	2,840	1,829	1,921	657	1,206
Reporting instruction at home	347	37	61	81	43	40	25	27	10	23
Not having attended special school for the deaf	698	58	95	194	112	84	60	50	21	24
Having attended—										
Common school only	511	44	69	158	72	56	45	33	18	16
High school or academy	44	5	6	13	1	8	4	2	1	4
University or college	12	------	2	2	4	1	1	1	------	1
Schools of miscellaneous character	61	5	7	8	20	8	5	6	------	2
Schools of character not reported	70	4	11	13	15	11	5	8	2	1
Not having attended school	3,917	224	589	823	402	775	472	441	117	74
Reporting instruction at home	163	11	28	33	7	26	23	25	5	5
Reporting no instruction	3,754	213	561	790	395	749	449	416	112	69
Not reporting as to education	244	28	48	53	18	27	29	18	8	15
	PER CENT DISTRIBUTION [2]									
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Having attended school	88.6	91.4	91.4	90.6	91.2	80.8	81.4	83.3	87.2	95.3
Having attended special school for the deaf	86.6	89.2	90.0	88.4	88.8	78.7	79.1	81.4	84.9	93.8
Having attended other schools also	11.7	15.8	12.2	14.2	11.9	7.4	6.1	7.5	11.6	15.4
Common school only	8.7	12.9	9.5	10.7	9.1	5.3	3.5	4.9	8.3	10.7
High school or academy	1.1	0.7	0.8	1.5	0.8	1.0	1.1	1.1	1.3	2.1
University or college	0.4	0.2	0.3	0.5	0.5	0.3	0.4	0.3	0.8	0.5
Schools of miscellaneous character	1.0	1.5	1.0	1.1	1.0	0.6	0.7	0.8	0.8	1.7
Schools of character not reported	0.5	0.5	0.6	0.4	0.6	0.2	0.5	0.4	0.4	0.4
Having attended no other school	74.9	73.4	77.8	74.2	76.9	71.3	72.9	73.8	73.2	78.3
Reporting no other instruction	73.9	72.0	76.9	73.2	75.9	70.3	72.0	72.8	72.1	76.9
Reporting instruction at home	1.0	1.4	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.5
Not having attended special school for the deaf	2.0	2.2	1.4	2.2	2.4	2.1	2.4	1.9	2.3	1.5
Having attended—										
Common school only	1.5	1.7	1.0	1.8	1.6	1.4	1.8	1.3	2.0	1.0
High school or academy	0.1	0.2	0.1	0.1	(3)	0.2	0.2	0.1	0.1	0.3
University or college	(3)	------	(3)	(3)	0.1	(3)	(3)	(3)	------	0.1
Schools of miscellaneous character	0.2	0.2	0.1	0.1	0.4	0.2	0.2	0.2	------	0.1
Schools of character not reported	0.2	0.2	0.2	0.1	0.3	0.3	0.2	0.3	0.2	0.1
Not having attended school	11.4	8.6	8.6	9.4	8.8	19.2	18.6	16.7	12.8	4.7
Reporting instruction at home	0.5	0.4	0.4	0.4	0.2	0.6	0.9	0.9	0.5	0.3
Reporting no instruction	10.9	8.2	8.2	9.0	8.6	18.5	17.7	15.8	12.3	4.4

[1] Includes those whose age was not reported.
[2] Based upon the number reporting as to education.
[3] Less than one-tenth of 1 per cent.

The highest proportion of deaf-mutes who have attended school is found in the Pacific division, followed in order by the New England, Middle Atlantic, West North Central, East North Central, Mountain, West South Central, East South Central, and South Atlantic. The differences among the various divisions represent to a greater or less extent general conditions as to education over the country. Relatively large proportions of deaf-mutes attend other schools than the special ones for this class in the New England, Pacific, and East North Central divisions, possibly to some extent because of the larger opportunities for technical education.

The largest percentages of deaf-mutes reporting no schooling at all are in the three southern divisions. This is largely due to the number of negroes in that section, many of whom did not even report home instruction. The Mountain division, also, has a large percentage of nonattendance at school, due probably to the large Mexican population there.

Race and nativity.—In Table 37 are given figures showing school attendance for the several race and nativity classes, together with the percentage distribution for 1920 and 1910.

TABLE 37.—DEAF-MUTES 5 YEARS OF AGE AND OVER, BY RACE, NATIVITY, AND EDUCATION, FOR THE UNITED STATES, 1920, WITH PER CENT DISTRIBUTION BY EDUCATION, 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

EDUCATION	NUMBER, 1920					
	All classes	White			Negro	Other colored
		Total	Native	Foreign-born		
Total [1]	34,726	33,133	30,516	2,617	1,482	111
Having attended school	30,565	29,566	27,417	2,149	939	60
Having attended special school for the deaf	29,867	28,918	26,834	2,084	891	58
Having attended other schools also	4,036	3,942	3,666	276	85	9
Common school only	3,015	2,958	2,762	196	53	4
High school or academy	380	364	344	20	15	1
University or college	138	134	114	20	4	-------
Schools of miscellaneous character	344	336	308	28	6	2
Schools of character not reported	159	150	138	12	7	2
Having attended no other school	25,831	24,976	23,168	1,808	806	49
Reporting no other instruction	25,484	24,637	22,851	1,786	800	47
Reporting private instruction at home	347	339	317	22	6	2
Not having attended special school for the deaf	698	648	583	65	48	2
Having attended—						
Common school only	511	471	416	55	39	1
High school or academy	44	41	38	3	2	1
University or college	12	12	11	1	-------	-------
Schools of miscellaneous character	61	59	58	1	2	-------
Schools of character not reported	70	65	60	5	5	-------
Not having attended school	3,917	3,338	2,898	440	530	49
Reporting private instruction at home	163	146	131	15	15	2
Reporting no instruction	3,754	3,192	2,767	425	515	47
Not reporting as to education	244	229	201	28	13	2

[1] Includes those whose age was not reported.

Table 37.—Deaf-mutes 5 Years of Age and Over, by Race, Nativity, and Education, for the United States, 1920, with Per Cent Distribution by Education, 1920 and 1910—Continued

[Figures include only deaf-mutes returning special schedules]

EDUCATION	PER CENT DISTRIBUTION [2]								
	1920					1910			
	All classes	White		Negro	Other colored	All classes	White		Negro
		Native	Foreign-born				Native	Foreign-born	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Having attended school	88.6	90.4	83.0	63.9	55.0	84.6	87.5	79.6	52.4
Having attended special school for the deaf	86.6	88.5	80.5	60.7	53.2	82.7	85.7	77.3	50.5
Having attended other schools also	11.7	12.1	10.7	5.8	8.3	3.2	3.3	3.6	1.7
Common school only	8.7	9.1	7.6	3.6	3.7	2.3	2.4	2.6	1.0
High school or academy	1.1	1.1	0.8	1.0	0.9	0.4	0.4	0.5	0.4
University or college	0.4	0.4	0.8	0.3	-------	0.2	0.2	0.1	0.2
Schools of miscellaneous character	1.0	1.0	1.1	0.4	1.8	0.2	0.2	0.3	0.1
Schools of character not reported	0.5	0.5	0.5	0.5	1.8	0.1	0.1	0.1	0.1
Having attended no other school	74.9	76.4	69.8	54.9	45.0	79.5	82.4	73.7	48.8
Reporting no other instruction	73.9	75.4	69.0	54.5	43.1	78.9	81.7	73.2	48.5
Reporting private instruction at home	1.0	1.0	0.8	0.4	1.8	0.6	0.7	0.6	0.3
Not having attended special school for the deaf	2.0	1.9	2.5	3.3	1.8	1.9	1.8	2.3	1.9
Having attended—									
Common school only	1.5	1.4	2.1	2.7	0.9	1.3	1.2	1.4	1.4
High school or academy	0.1	0.1	0.1	0.1	0.9	0.1	0.1	0.1	0.1
University or college	(3)	(3)	(3)	-------	-------	-------	-------	-------	------
Schools of miscellaneous character	0.2	0.2	(3)	0.1	-------	0.4	0.4	0.6	0.1
Schools of character not reported	0.2	0.2	0.2	0.3	-------	0.1	0.1	0.2	0.3
Not having attended school	11.4	9.6	17.0	36.1	45.0	15.4	12.5	20.4	47.6
Reporting private instruction at home	0.5	0.4	0.6	1.0	1.8	0.6	0.5	1.0	0.9
Reporting no instruction	10.9	9.1	16.4	35.1	43.1	14.8	11.9	19.4	46.7

[2] Based upon the number reporting as to education.

[3] Less than one-tenth of 1 per cent.

The best showing as to school attendance is made by native whites, with a proportion of 90.4 per cent; the next, by foreign-born whites, with 83 per cent; the next, by negroes, with 63.9 per cent; and the lowest, by "Other colored," with 55 per cent. Among both foreign-born whites and negroes a smaller proportion had attended the special schools. In the case of the foreign born this may be because there are relatively fewer of them belonging to the younger age groups, for whom the special schools would be the first recourse; and in the case of negroes, because in certain localities special schools are not fully available for negro deaf-mutes. Among colored deaf-mutes other than negroes, home instruction is a means of education for a larger proportion than among the other groups. For all of the groups, the proportion who had attended school was greater in 1920 than in 1910, this being notably the case with negroes.

Age and sex.—In Table 38 is given the distribution of deaf-mutes according to education, for different age groups, together with the percentage which this number constitutes of the total for both sexes and for each sex separately.

TABLE 38.—DEAF-MUTES 5 YEARS OF AGE AND OVER, BY AGE, SEX, AND EDUCATION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

AGE AND SEX	Total[1]	HAVING ATTENDED SCHOOL						Not having attended school	Not reporting as to education
		Total	Having attended special school for the deaf			Not having attended special school for the deaf			
			Total	Other schools also	No other school				
	NUMBER								
5 years and over:									
Both sexes	34,726	30,565	29,867	4,036	25,831	698		3,917	244
Male	19,008	16,891	16,513	2,286	14,227	378		1,978	139
Female	15,718	13,674	13,354	1,750	11,604	320		1,939	105
5 to 9 years	3,496	2,509	2,452	188	2,264	57		940	47
Male	1,832	1,306	1,277	99	1,178	29		500	26
Female	1,664	1,203	1,175	89	1,086	28		440	21
10 to 14 years	5,319	4,976	4,921	743	4,178	55		327	16
Male	2,870	2,691	2,659	410	2,249	32		169	10
Female	2,449	2,285	2,262	333	1,929	23		158	6
15 to 19 years	4,785	4,574	4,519	742	3,777	55		203	8
Male	2,530	2,446	2,409	396	2,013	37		82	2
Female	2,255	2,128	2,110	346	1,764	18		121	6
20 to 24 years	3,114	2,860	2,798	460	2,338	62		235	19
Male	1,741	1,602	1,560	250	1,310	42		128	11
Female	1,373	1,258	1,238	210	1,028	20		107	8
25 to 44 years	9,926	8,944	8,739	1,193	7,546	205		914	68
Male	5,551	5,056	4,943	711	4,232	113		451	44
Female	4,375	3,888	3,796	482	3,314	92		463	24
45 to 64 years	6,337	5,354	5,165	581	4,584	189		927	56
Male	3,571	3,067	2,979	349	2,630	88		475	29
Female	2,766	2,287	2,186	232	1,954	101		452	27
65 years and over	1,384	1,052	988	104	884	64		312	20
Male	735	584	554	60	494	30		141	10
Female	649	468	434	44	390	34		171	10
	PER CENT OF TOTAL[2]								
5 years and over:									
Both sexes	100.0	88.6	86.6	11.7	74.9	2.0		11.4	--------
Male	100.0	89.5	87.5	12.1	75.4	2.0		10.5	--------
Female	100.0	87.6	85.5	11.2	74.3	2.0		12.4	--------
5 to 9 years	100.0	72.7	71.1	5.5	65.6	1.7		27.3	--------
Male	100.0	72.3	70.7	5.5	65.2	1.6		27.7	--------
Female	100.0	73.2	71.5	5.4	66.1	1.7		26.8	--------
10 to 14 years	100.0	93.8	92.8	14.0	78.8	1.0		6.2	--------
Male	100.0	94.1	93.0	14.3	78.6	1.1		5.9	--------
Female	100.0	93.5	92.6	13.6	79.0	0.9		6.5	--------
15 to 19 years	100.0	95.8	94.6	15.5	79.1	1.2		4.2	--------
Male	100.0	96.8	95.3	15.7	79.6	1.5		3.2	--------
Female	100.0	94.6	93.8	15.4	78.4	0.8		5.4	--------
20 to 24 years	100.0	92.4	90.4	14.9	75.5	2.0		7.6	--------
Male	100.0	92.6	90.2	14.5	75.7	2.4		7.4	--------
Female	100.0	92.2	90.7	15.4	75.3	1.5		7.8	--------
25 to 44 years	100.0	90.7	88.6	12.1	76.5	2.1		9.3	--------
Male	100.0	91.8	89.8	12.9	76.8	2.1		8.2	--------
Female	100.0	89.4	87.2	11.1	76.2	2.1		10.6	--------
45 to 64 years	100.0	85.2	82.2	9.3	73.0	3.0		14.8	--------
Male	100.0	86.6	84.1	9.9	74.3	2.5		13.4	--------
Female	100.0	83.5	79.8	8.5	71.3	3.7		16.5	--------
65 years and over	100.0	77.1	72.4	7.6	64.8	4.7		22.9	--------
Male	100.0	80.6	76.4	8.3	68.1	4.1		19.4	--------
Female	100.0	73.2	67.9	6.9	61.0	5.3		26.8	--------

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[1] Includes those whose age was not reported.

[2] Based upon the number reporting as to education.

The best showing is made by the group from 15 to 19 years of age. The period with the next best showing is that for the next younger group, aged 10 to 14, followed by that for the next older group, from 20 to 24. The deaf-mutes of the age period from 5 to 9 (during which nearly all hearing children enter school) rank below all of these three groups and actually show the smallest attendance, proportionately, of any age group. In the successive periods of adult life the proportions who have attended school gradually decline. This condition presumably indicates the constantly increasing effectiveness of the educational facilities for deaf-mutes in recent years. With the older age groups, also, there has been a greater proportion who have attended schools other than the special ones for the deaf. From these figures, it is apparent that deaf-mutes are to-day resorting more and more to these special schools for their education, both because of a greater appreciation of their advantages, and because many more of them are available, due in part to the more general establishment of day schools. The reason for the relatively low proportion of deaf-mutes who have attended school at the earlier ages of school life, and for the relatively high proportions at later ages, is that the school period with deaf-mutes usually starts and also ends at ages somewhat above those of children in general. Many at the earlier ages have not as yet commenced attending school, while a large proportion of deaf-mutes remain in school until past the age when most normal children leave school. Deaf-mutes, in other words, are rather below the general population in the percentage of school attendance at the earliest school period, but are more and more above it at later periods. The schooling of deaf-mutes, furthermore, because of the necessarily slower processes involved, is generally of greater duration than is the schooling of children who have hearing and normal speech. At practically all school ages, however, there are many deaf-mute children growing up without any education; and all too many drop out of school before completing their education. For the entire deaf-mute population, schooling is measurably less than among the general population.[19]

For deaf-mutes of all age groups, except that from 5 to 9, the proportion who have attended school is larger among males than among females. The excess for males increases generally with each succeeding age group. Evidently female deaf-mutes have in the past been less willing than males to attend school, but with the passage of time their reluctance has been gradually replaced by a growing desire for education. In former times, furthermore, they had their schooling to a greater extent in the general schools and to a lesser extent in the special schools. The age period at which the disparity in school attendance is least noticeable is at 20 to 24 years; there is a proportionate excess at that age for females who had attended special schools for the deaf.

Table 39 shows the distribution, by school attendance, of deaf-mutes, classified according to race and nativity, and further classified in broad age groups which roughly indicate three generations. These figures afford a fair measure of the present opportunities for the education of each class as compared with the opportunities in past years.

Among native whites, as indicated in the percentages of school attendance for these three broad age groups, there has been a general improvement as to education, though the showing for those in youth and childhood is apparently not quite so good as for those in early and middle adult life; in each of these periods, however, the percentages exceed those of 65 years and over. The improvement in the case of foreign-born whites and negroes is even more noticeable. With the former an important factor has doubtless been the increasing number of day schools for deaf-mutes in large cities, where the foreign born so largely reside. While negroes rank lowest at all periods in the matter of education, they show the most pronounced increase in the percentage who attended school, the proportion for those having an education two generations back being so small as to be virtually negligible. These figures indicate anew the rapid strides being made in the education of negro deaf-mutes. In all of the classes, the younger element seem to be resorting in greater degree to the special schools for their education, a tendency which seems to be especially marked in the case of the foreign born.

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[19] See Fourteenth Census reports, 1920, Vol. II, Ch. XI, School attendance, and Ch. XII, Illiteracy.

TABLE 39.—DEAF-MUTES 5 YEARS OF AGE AND OVER, BY RACE, NATIVITY, AGE, AND EDUCATION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

RACE, NATIVITY, AND AGE GROUP	Total	HAVING ATTENDED SCHOOL						Not having attended school	Not reporting as to education
		Total	Having attended school for the deaf			Not having attended school for the deaf		
			Total	Other schools also	No other school			
	NUMBER [1]							
5 years and over	34,726	30,565	29,867	4,036	25,831	698	3,917	244
Native white	30,516	27,417	26,834	3,666	23,168	583	2,898	201
Foreign-born white	2,617	2,149	2,084	276	1,808	65	440	28
Negro	1,482	939	891	85	806	48	530	13
Other colored	111	60	58	9	49	2	49	2
Under 20 years	13,600	12,059	11,892	1,673	10,219	167	1,470	71
Native white	12,426	11,105	10,965	1,557	9,408	140	1,253	68
Foreign-born white	498	467	464	86	378	3	31	--------
Negro	644	466	442	28	414	24	175	3
Other colored	32	21	21	2	19	---------	11	--------
20 to 64 years	19,377	17,158	16,702	2,234	14,468	456	2,076	143
Native white	16,700	15,199	14,818	2,001	12,817	381	1,392	109
Foreign-born white	1,854	1,499	1,448	173	1,275	51	331	24
Negro	747	423	401	54	347	22	315	9
Other colored	76	37	35	6	29	2	38	1
65 years and over	1,384	1,052	988	104	884	64	312	20
Native white	1,114	882	829	87	742	53	218	14
Foreign-born white	243	166	155	15	140	11	73	4
Negro	25	3	3	1	2	---------	21	1
Other colored	2	1	1	1	----------	---------	---------	1
	PER CENT OF TOTAL [2]							
5 years and over	100.0	88.6	86.6	11.7	74.9	2.0	11.4	--------
Native white	100.0	90.4	88.5	12.1	76.4	1.9	9.6	--------
Foreign-born white	100.0	83.0	80.5	10.7	69.8	2.5	17.0	--------
Negro	100.0	63.9	60.7	5.8	54.9	3.3	36.1	--------
Other colored	100.0	55.0	53.2	8.3	45.0	1.8	45.0	--------
Under 20 years	100.0	89.1	87.9	12.4	75.5	1.2	10.9	--------
Native white	100.0	89.9	88.7	12.6	76.1	1.1	10.1	--------
Foreign-born white	100.0	93.8	93.2	17.3	75.9	0.6	6.2	--------
Negro	100.0	72.7	69.0	4.4	64.6	3.7	27.3	--------
Other colored	----------	----------	----------	----------	----------	----------	----------	--------
20 to 64 years	100.0	89.2	86.8	11.6	75.2	2.4	10.8	--------
Native white	100.0	91.6	89.3	12.1	77.3	2.3	8.4	--------
Foreign-born white	100.0	81.9	79.1	9.5	69.7	2.8	18.1	--------
Negro	100.0	57.3	54.3	7.3	47.0	3.0	42.7	--------
Other colored	----------	----------	----------	----------	----------	----------	----------	--------
65 years and over	100.0	77.1	72.4	7.6	64.8	4.7	22.9	--------
Native white	100.0	80.2	75.4	7.9	67.5	4.8	19.8	--------
Foreign-born white	100.0	69.5	64.9	6.3	58.6	4.6	30.5	--------
Negro	----------	----------	----------	----------	----------	----------	----------	--------
Other colored	----------	----------	----------	----------	----------	----------	----------	--------

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[1] Includes those whose age was not reported.

[2] Based upon the number reporting as to education. Per cent not shown where base is less than 100.

Age when hearing was lost.—Table 40 shows the number and the per cent distribution as to education of deaf-mutes 5 years of age and over, according to the age when hearing was lost.

TABLE 40.—DEAF-MUTES 5 YEARS OF AGE AND OVER, BY AGE WHEN HEARING WAS LOST, AND EDUCATION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

EDUCATION	Total	Deafness congenital	DEAFNESS ACQUIRED						
			Total	At less than 10 years of age				At 10 years of age or over	At age not reported
				Total	At less than 5 years of age [1]	At 5 to 9 years of age	Childhood (exact age not reported)		
	NUMBER								
5 years and over [2]	34,726	13,331	21,395	20,477	16,343	3,516	618	250	668
Having attended school	30,565	11,323	19,242	18,491	14,862	3,059	570	209	542
Having attended special school for the deaf	29,867	11,138	18,729	18,000	14,566	2,874	560	200	529
Having attended other schools also	4,036	977	3,059	2,848	1,762	1,001	85	134	77
Common school only	3,015	699	2,316	2,141	1,258	810	73	111	64
High school or academy	380	108	272	256	175	76	5	12	4
University or college	138	32	106	102	70	32	------	3	1
Schools of miscellaneous character	344	94	250	236	176	55	5	7	7
Schools of character not reported	159	44	115	113	83	28	2	1	1
Having attended no other school	25,831	10,161	15,670	15,152	12,804	1,873	475	66	452
Reporting no other instruction	25,484	10,072	15,412	14,899	12,603	1,828	468	65	448
Reporting private instruction at home	347	89	258	253	201	45	7	1	4
Not having attended special school for the deaf	698	185	513	491	296	185	10	9	13
Having attended—									
Common school only	511	136	375	365	220	140	5	4	6
High school or academy	44	7	37	34	21	13	------	3	------
University or college	12	3	9	9	5	4	------	------	------
Schools of miscellaneous character	61	16	45	45	28	17	------	------	------
Schools of character not reported	70	23	47	38	22	11	5	2	7
Not having attended school	3,917	1,882	2,035	1,890	1,404	442	44	41	104
Reporting private instruction at home	163	56	107	106	76	28	2	------	1
Reporting no instruction	3,754	1,826	1,928	1,784	1,328	414	42	41	103
Not reporting as to education	244	126	118	96	77	15	4	------	22
	PER CENT DISTRIBUTION [3]								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Having attended school	88.6	85.7	90.4	90.7	91.4	87.4	92.8	83.6	83.9
Having attended special school for the deaf	86.6	84.3	88.0	88.3	89.5	82.1	91.2	80.0	81.9
Having attended other schools also	11.7	7.4	14.4	14.0	10.8	28.6	13.8	53.6	11.9
Common school only	8.7	5.3	10.9	10.5	7.7	23.1	11.9	44.4	9.9
High school or academy	1.1	0.8	1.3	1.3	1.1	2.2	0.8	4.8	0.6
University or college	0.4	0.2	0.5	0.5	0.4	0.9	------	1.2	0.2
Schools of miscellaneous character	1.0	0.7	1.2	1.2	1.1	1.6	0.8	2.8	1.1
Schools of character not reported	0.5	0.3	0.5	0.6	0.5	0.8	0.3	0.4	0.2
Having attended no other school	74.9	76.9	73.6	74.3	78.7	53.5	77.4	26.4	70.0
Reporting no other instruction	73.9	76.3	72.4	73.1	77.5	52.2	76.2	26.0	69.3
Reporting private instruction at home	1.0	0.7	1.2	1.2	1.2	1.3	1.1	0.4	0.6

See footnotes at end of table.

TABLE 40.—DEAF-MUTES 5 YEARS OF AGE AND OVER, BY AGE WHEN HEARING WAS LOST, AND EDUCATION, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

EDUCATION	Total	Deafness congenital	DEAFNESS ACQUIRED						
			Total	At less than 10 years of age				At 10 years of age or over	At age not reported
				Total	At less than 5 years of age [1]	At 5 to 9 years of age	Childhood (exact age not reported)		
	PER CENT DISTRIBUTION [3]								
Having attended school—Continued.									
Not having attended special school for the deaf	2.0	1.4	2.4	2.4	1.8	5.3	1.6	3.6	2.0
Having attended—									
Common school only	1.5	1.0	1.8	1.8	1.4	4.0	0.8	1.6	0.9
High school or academy	0.1	0.1	0.2	0.2	0.1	0.4	------	1.2	------
University or college	(4)	(4)	(4)	(4)	(4)	0.1	------	------	------
Schools of miscellaneous character	0.2	0.1	0.2	0.2	0.2	0.5	------	------	------
Schools of character not reported	0.2	0.2	0.2	0.2	0.1	0.3	0.8	0.8	1.1
Not having attended school	11.4	14.3	9.6	9.3	8.6	12.6	7.2	16.4	16.1
Reporting private instruction at home	0.5	0.4	0.5	0.5	0.5	0.8	0.3	------	0.2
Reporting no instruction	10.9	13.8	9.1	8.8	8.2	11.8	6.8	16.4	15.9

[1] Includes those reported as having lost their hearing in infancy, but without statement as to exact age.
[2] Includes those whose age was not reported.
[3] Based upon the number reporting as to education.
[4] Less than one-tenth of 1 per cent.

The record as to school attendance is better for adventitious deaf-mutes than for congenital deaf-mutes, the respective percentages being 90.4 and 85.7. Among the former are to be included a certain proportion who have already been in attendance at a regular school before the oncoming of their deafness, while among the latter are included an unduly large proportion of negroes, among whom education in general is relatively less. For adventitious deaf-mutes, the earlier the age at which hearing was lost the higher is the proportion who have attended schools. For those losing hearing under 5 years of age the proportion having attended school is 91. 4 per cent; for those losing hearing at from 5 to 9 years, 87.4 per cent; and for those losing hearing at 10 or over, 83.6 per cent. It is possible, however, that the figures can be accounted for to a certain extent by more complete reporting from those losing hearing at the earlier ages. As would be expected, attendance at a special school for the deaf is most common for deaf-mutes born deaf or losing hearing in infancy or early childhood. Among those who became deaf under 5 years of age, the proportion educated exclusively in special schools was about one and one-half times as great as for those losing hearing from 5 to 9, and three times as great as for those losing hearing at 10 or over. For those who have attended other schools, wholly or in part, the situation is reversed. However, the proportion not attending special schools is greater for those losing hearing from 5 to 9 than for those losing it at 10 or over; possibly because, in the case of most of the latter group, educational opportunities were no longer available to any considerable extent after the loss of hearing. Those who lost hearing after early childhood generally began their education in a regular school for the hearing, sometimes continuing to advanced grades, and later, on becoming deaf, entered special schools for the deaf.

METHODS OF COMMUNICATION

Deaf-mutes, to have intercourse to any extent among themselves or with their hearing fellow men, must have their lack of ability to hear and to use normal speech compensated for in some manner, or a substitute provided in some degree, for their deprivation by inheritance or disease. This can be done either by special instruction in the use of whatever speech exists, along with the reading of the lips, or by some nonoral means of communication devised to meet their peculiar needs. There are, accordingly, two prevailing methods employed in the United States in the education of deaf-mutes—the "oral" method and the "combined" method; the latter utilizing nonoral procedure as well as oral, in greater or less measure. In the oral method stress is placed largely, sometimes exclusively, upon articulation—that is, the teaching of intelligible speech or of the use of the voice. This method is generally accompanied by what is known as lip reading, the aim being, as far as possible, to make the eye serve for the ear, and thus to afford the deaf-mute whatever benefit may be had from human speech. Training in the use of speech may have either one of two ends in view in its development—the acquisition of speech by those who hitherto have practically been without it, especially those whose deafness was congenital or occurred at earliest infancy, or the retention of speech by those who have once acquired it while in the possession of their hearing, in cases where hearing was not lost until childhood was past and some stage of normal speech had been attained. The quality of speech actually attained by deaf-mutes is, therefore, of varying degrees. In some cases their speech is far from euphonious and agreeable, or clear and readily intelligible; often it hardly extends beyond the use of a limited number of simple words or phrases, and is hardly good enough to serve as an effective means of communication or even for general purposes. In other cases their speech may approximate the speech of people in general, though seldom, except in cases where original speech is retained, actually measuring up to it. The degree of proficiency to be attained in the acquirement of speech lies mainly in the individual; it depends on a number of factors, including mental capability, willingness to learn, determination, patience, perseverance, application, and constant practice or cultivation of the voice—apart from the factor of age at the loss of hearing or of any remaining power of hearing. The greatest success in the use of the oral method often consists in the preservation, in some degree, of the speech of those who once had it.

In the combined method, speech and speech reading are also taught to a greater or less extent, but only in conjunction with nonoral or "manual" methods. The general aim with respect to this method is to adjust any particular form of teaching to the individual needs of the deaf-mute child, speech being taught where the measure of success to be attained seems likely to justify the labor expended, due regard being given to the general mental development and the previous acquisition of language. In finger spelling the various letters of the alphabet are represented by the positions of the fingers of the hand. The sign language has to a large extent been systematized and codified.[20] The signs adopted are partly natural and partly arbitrary or conventional. The system follows ordinary language in only a limited degree, largely departing therefrom in its construction, especially as to the order in which its expressions are put and as to the general contraction or abbreviation of discourse. Though the sign language is not directly taught at the schools for the deaf, it is here that deaf-mutes acquire it in its recognized form.

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[20] In connection with the sign language, finger spelling is often resorted to for proper names and the less common words.

In connection with both the oral and the combined methods of instruction, writing is used as an auxiliary to the fullest possible extent.

The oral method of instruction received a somewhat limited attention at the beginning of organized teaching of deaf-mutes in this country, in the first few decades of the nineteenth century, but at an early date it was practically set aside in the actual work of instruction, the system of signs becoming the nearly exclusive means of education. This situation continued till the 1860's, when the oral method was revived, or was introduced, really, into the United States. Since that time its use has grown rapidly and widely. To-day it has a place in virtually every school of the country; in some schools it is the sole method of instruction, and in others it is employed as one of several methods—in the latter case resulting in the so-called "combined" system.

The methods employed in the schools as a means of instruction are presumably continued by the pupils in greater or less measure in ensuing life as their means of communication. In point of fact, however, it is comparatively seldom that any of the several methods are employed singly. For the most part they are used in combination; that is, one or another method is called into requisition according as occasion or circumstances may require. Among deaf-mutes themselves, the sign language is customarily employed alone, and it is also used to some extent in communicating with their families and with friends; in the company of persons unfamiliar with the sign language resort is largely to finger spelling. The oral method, including lip reading, apart from its use in the classroom, is employed to a greater or less extent in communication with hearing persons, intercourse thus being greatly facilitated and promoted. This method is often of greatest service in one's own family circle or with immediate friends. Writing, though slow and cumbersome, always remains the surest and most reliable means of communication between deaf-mutes and the outside world, and is resorted to when other methods fail.

Single and combined methods.—Table 41 shows the various methods of communication as reported by deaf-mutes returning schedules, and gives the number and the percentage employing each method, correlated with respect to other methods, for 1920, with comparative percentages for 1910.

The individual method reported most frequently, whether alone or in combination with other methods, is writing, 80.2 per cent of deaf-mutes turning from time to time to this method of communication. The sign language has almost as many users, or 78.2 per cent; finger spelling, akin to the sign language, is but little behind, with 76.4 per cent. A little over two-fifths (41.3 per cent) of deaf-mutes are able to employ speech as a means of communication (speech being counted only for those who employ it as a means of communication, and not for those who simply affirm an ability to speak). Miscellaneous methods, which probably consist largely of natural signs, are resorted to by 3.5 per cent; these are probably, for the most part, persons without education, often persons who have become deaf-mutes at a relatively late age, with consequent little opportunity for education at a special school for the deaf, and, occasionally, persons suffering from some extraneous physical or mental infirmity. By 2 per cent, made up mostly of persons of impaired physical or mental state, the use of no method is reported.

As between oral and nonoral methods, the latter predominate, being used to a greater or less extent by somewhat over nine-tenths (92.6 per cent), as against a little over two-fifths (41.3 per cent) for the former. Somewhat over one-half (56.6 per cent) of deaf-mutes employ nonoral methods altogether. Nonoral methods represent generally the sign language and finger spelling, writing being an added means when demanded by circumstances, especially in communication with hearing persons not acquainted with the two manual methods. Over four-fifths (82.8 per cent) of deaf-mutes employ the sign language and finger spelling to some extent at least. Only by a very small proportion, however, (2.6 per cent) is the sign language employed alone, this proportion probably being made up largely of persons with little schooling. Finger spelling alone is employed by relatively few deaf-mutes. This is also the case with respect to writing.

TABLE 41.—DEAF-MUTES 10 YEARS OF AGE AND OVER, BY SEX AND REPORTED MEANS OF COMMUNICATION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED MEANS OF COMMUNICATION	NUMBER [1]			PER CENT DISTRIBUTION [2]					
				1920			1910		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Total	31,230	17,176	14,054	-----	-----	-----	-----	-----	-----
Reporting as to means of communication	29,720	16,392	13,328	100.0	100.0	100.0	100.0	100.0	100.0
Using speech only	1,576	748	828	5.3	4.6	6.2	1.0	0.9	1.1
Using speech in combination with—									
All other methods	10,710	5,525	5,185	36.0	33.7	38.9	23.8	21.7	26.3
Writing, finger spelling, and sign language	7,526	3,893	3,633	25.3	23.7	27.3	17.6	16.2	19.3
Writing and finger spelling	449	244	205	1.5	1.5	1.5	0.9	0.9	1.0
Writing and sign language	433	242	191	1.5	1.5	1.4	0.6	0.6	0.7
Finger spelling and sign language	311	140	171	1.0	0.9	1.3	0.5	0.4	0.7
Writing only	1,575	806	769	5.3	4.9	5.8	2.8	2.5	3.3
Finger spelling only	59	28	31	0.2	0.2	0.2	0.2	0.2	0.2
Sign language only	295	146	149	1.0	0.9	1.1	0.3	0.4	0.3
Miscellaneous methods	62	26	36	0.2	0.2	0.3	0.8	0.7	0.9
Not using speech but using—									
All other methods	16,828	9,817	7,011	56.6	59.9	52.6	74.6	76.7	72.0
Writing, finger spelling, and sign language	12,488	7,412	5,076	42.0	45.2	38.1	50.5	53.3	47.2
Writing and finger spelling	635	387	248	2.1	2.4	1.9	3.2	3.4	2.9
Writing and sign language	416	256	160	1.4	1.6	1.2	1.8	2.2	1.2
Finger spelling and sign language	1,007	544	463	3.4	3.3	3.5	3.8	2.9	5.0
Writing only	319	186	133	1.1	1.1	1.0	1.3	1.4	1.2
Finger spelling only	228	110	118	0.8	0.7	0.9	0.9	0.8	1.0
Sign language only	761	421	340	2.6	2.6	2.6	2.3	2.4	2.1
Miscellaneous methods	974	501	473	3.3	3.1	3.5	10.8	10.3	11.5
Using no means of communication	606	302	304	2.0	1.8	2.3	0.6	0.7	0.5
Not reporting as to means of communication	1,510	784	726	-----	-----	-----	-----	-----	-----
Reporting themselves as able to speak	368	181	187	-----	-----	-----	-----	-----	-----
Reporting themselves as unable to speak	878	468	410	-----	-----	-----	-----	-----	-----
Not reporting as to ability to speak	264	135	129	-----	-----	-----	-----	-----	-----
Reporting use of—									
Speech	12,286	6,273	6,013	41.3	38.3	45.1	24.8	22.6	27.4
Writing	23,841	13,426	10,415	80.2	81.9	78.1	78.8	80.5	76.7
Finger spelling	22,703	12,758	9,945	76.4	77.8	74.6	77.7	78.0	77.2
Sign language	23,237	13,054	10,183	78.2	79.6	76.4	77.5	78.3	76.5
Miscellaneous methods	1,036	527	509	3.5	3.2	3.8	11.6	10.9	12.4

[1] Includes those whose age was not reported.

[2] Based upon the number reporting as to means of communication.

Of deaf-mutes using speech as a means of communication, about one-eighth (comprising 5.3 per cent of the total reporting as to method) rely upon speech entirely, the remainder resorting to other methods in addition. Those who place the greatest dependence upon speech are generally those whose hearing was lost after considerable advance had already been made toward the acquisition of normal speech.

Speech is employed by female deaf-mutes to a larger extent than by male, 45.1 per cent of the former sex employing it alone or in combination with other methods, as against 38.3 per cent for the latter. All other methods, except miscellaneous methods, are used to a greater extent by males. A larger proportion of females also report no method of communication at all. That female deaf-mutes avail themselves of speech more fully than do male is to be expected, in view of their greater general aptitude and assiduity, including the necessary patience for the acquisition of the art of speech. Writing is used among males in a slightly greater degree, relatively, doubtless because of their wider contacts, especially in business and industry.

Since 1910 there has been a very great increase in the proportion reporting the use of speech, or from 24.8 per cent to 41.3 per cent. The proportion employing speech alone as a means of communication has increased fivefold, or from 1 per cent to 5.3 per cent. The proportion using the sign language and the proportion using writing have slightly increased, while the proportion using finger spelling has slightly decreased. There has been a notable decrease in deaf-mutes depending upon miscellaneous methods, the proportion in 1920 (3.5 per cent) being only about one-third of that in 1910 (11.6 per cent)—evidence of better school attendance on the part of deaf-mutes. The use of speech seems to have increased to a slightly greater extent among females than among males.

Though the increase in the use of speech among deaf-mutes has without doubt been considerable, it is improbable that the increase, especially as to the use of speech alone as a means of communication, could have been as considerable as that indicated, within a period of only 10 years. Possibly the number making report in this regard in 1910 was understated and the number in 1920 overstated, much depending upon what is regarded as speech as a means of communication. Possibly, also, in the later year, because of the increasing recognition by deaf-mutes of the value of speech, even though in limited degree, there may have been greater inclination on the part of some to report themselves as possessed of this ability. But, whatever the actual extent of the increase, the ability of deaf-mutes to use speech is steadily growing, as indicated by the growing emphasis upon the teaching of speech and articulation in the special schools. Of pupils in the schools in 1884, 27.2 per cent were taught speech; in 1890, 41.3 per cent; in 1900, 63 per cent; in 1910, 71.9 per cent; and in 1920, 81.9 per cent. The percentage taught wholly or chiefly by oral methods in 1892 was 19.9; in 1900, 42.8; in 1910, 61.3; and in 1920, 75.5. Furthermore, in 1920 there were 20.7 per cent taught in a strictly oral environment, the sign language and the manual alphabet not being allowed on the part of school instructors and employees.[21]

Geographic divisions.—In Table 42 are presented figures showing the proportions of the various methods of communication reported, for the several geographic divisions of the United States.

The New England division ranks highest in the use of speech by deaf-mutes, whether as the sole method of communication or in conjunction with other methods, having as many as three-fifths (59.8 per cent) employing it. Speech is used by practically one-half (50.9 per cent) of deaf-mutes in the Middle Atlantic division; by a little under one-half (47.3 per cent) in the Mountain division; by somewhat over two-fifths (44.6 per cent) in the Pacific; and by a little under two-fifths (39 per cent and 38.1 per cent, respectively) in the East North Central and South Atlantic divisions. The proportion of deaf-mutes using speech is about one-third or less (34.9 per cent, 30.2 per cent, and 28.3 per cent, respectively) in the West North Central, West South Central, and East South Central divisions.

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[21] Special reports of the Census Office, The Blind and the Deaf: 1900, p. 86; January issues of *American Annals of the Deaf*. See also *Volta Review, passim.*

TABLE 42.—DEAF-MUTES 10 YEARS OF AGE AND OVER, BY REPORTED MEANS OF COMMUNICATION, BY GEOGRAPHIC DIVISIONS: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED MEANS OF COMMUNICATION	United States	GEOGRAPHIC DIVISIONS								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
	NUMBER [1]									
Total	31, 230	2, 349	6, 132	7, 926	4, 245	3, 665	2, 276	2, 405	821	1, 411
Reporting as to means of communication	29, 720	2, 275	5, 900	7, 595	4, 079	3, 284	2, 118	2, 293	789	1, 387
Using speech only	1, 576	317	261	465	117	143	49	93	27	104
Using speech in combination with—										
All other methods	10, 710	1, 043	2, 745	2, 498	1, 305	1, 109	550	600	346	514
Writing, finger spelling, and sign language	7, 526	584	1, 883	1, 695	992	871	448	439	248	366
Writing and finger spelling	449	30	221	71	27	28	19	22	21	10
Writing and sign language	433	66	125	117	26	30	15	15	19	20
Finger spelling and sign language	311	12	87	69	37	31	17	28	14	16
Writing only	1, 575	310	356	432	164	105	26	67	31	84
Finger spelling only	59	6	16	13	6	1	4	8	2	3
Sign language only	295	29	53	76	37	38	21	18	9	14
Miscellaneous methods	62	6	4	25	16	5	-----	3	2	1
Not using speech but using—										
All other methods	16, 828	884	2, 799	4, 500	2, 570	1, 927	1, 453	1, 544	401	750
Writing, finger spelling, and sign language	12, 488	604	2, 038	3, 475	2, 051	1, 292	1, 015	1, 097	289	627
Writing and finger spelling	635	26	154	122	78	97	71	47	15	25
Writing and sign language	416	46	79	123	55	38	24	31	8	12
Finger spelling and sign language	1, 007	53	157	274	146	117	98	113	23	26
Writing only	319	39	81	78	42	27	17	18	5	12
Finger spelling only	228	9	51	38	21	43	28	28	5	5
Sign language only	761	57	100	201	95	104	60	90	28	26
Miscellaneous methods	974	50	139	189	82	209	140	120	28	17
Using no means of communication	606	31	95	132	87	105	66	56	15	19
Not reporting as to means of communication	1, 510	74	232	331	166	381	158	112	32	24
Reporting themselves as able to speak	368	18	57	79	47	95	32	20	9	11
Reporting themselves as unable to speak	878	43	136	209	101	170	103	88	18	10
Not reporting as to ability to speak	264	13	39	43	18	116	23	4	5	3
Reporting use of—										
Speech	12, 286	1, 360	3, 006	2, 963	1, 422	1, 252	599	693	373	618
Writing	23, 841	1, 705	4, 937	6, 113	3, 435	2, 488	1, 635	1, 736	636	1, 156
Finger spelling	22, 703	1, 324	4, 607	5, 757	3, 358	2, 480	1, 700	1, 782	617	1, 078
Sign language	23, 237	1, 451	4, 522	6, 030	3, 439	2, 521	1, 698	1, 831	638	1, 107
Miscellaneous methods	1, 036	56	143	214	98	214	140	123	30	18
	PER CENT DISTRIBUTION [2]									
Total	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Using speech only	5. 3	13. 9	4. 4	6. 1	2. 9	4. 4	2. 3	4. 1	3. 4	7. 5
Using speech in combination with—										
All other methods	36. 0	45. 8	46. 5	32. 9	32. 0	33. 8	26. 0	26. 2	43. 9	37. 1
Writing, finger spelling, and sign language	25. 3	25. 7	31. 9	22. 3	24. 3	26. 5	21. 2	19. 1	31. 4	26. 4
Writing and finger spelling	1. 5	1. 3	3. 7	0. 9	0. 7	0. 9	0. 9	1. 0	2. 7	0. 7
Writing and sign language	1. 5	2. 9	2. 1	1. 5	0. 6	0. 9	0. 7	0. 7	2. 4	1. 4
Finger spelling and sign language	1. 0	0. 5	1. 5	0. 9	0. 9	0. 9	0. 8	1. 2	1. 8	1. 2
Writing only	5. 3	13. 6	6. 0	5. 7	4. 0	3. 2	1. 2	2. 9	3. 9	6. 1
Finger spelling only	0. 2	0. 3	0. 3	0. 2	0. 1	(3)	0. 2	0. 3	0. 3	0. 2
Sign language only	1. 0	1. 3	0. 9	1. 0	0. 9	1. 2	1. 0	0. 8	1. 1	1. 0
Miscellaneous methods	0. 2	0. 3	0. 1	0. 3	0. 4	0. 2	-----	0. 1	0. 3	0. 1

See footnotes at end of table.

TABLE 42.—DEAF-MUTES 10 YEARS OF AGE AND OVER, BY REPORTED MEANS OF COMMUNICATION, BY GEOGRAPHIC DIVISIONS: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

REPORTED MEANS OF COMMUNICATION	United States	GEOGRAPHIC DIVISIONS								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
	PER CENT DISTRIBUTION [2]									
Not using speech but using—										
All other methods	56.6	38.9	47.4	59.2	63.0	58.7	68.6	67.3	50.8	54.1
Writing, finger spelling, and sign language	42.0	26.5	34.5	45.8	50.3	39.3	47.9	47.8	36.6	45.2
Writing and finger spelling	2.1	1.1	2.6	1.6	1.9	3.0	3.4	2.0	1.9	1.8
Writing and sign language	1.4	2.0	1.3	1.6	1.3	1.2	1.1	1.4	1.0	0.9
Finger spelling and sign language	3.4	2.3	2.7	3.6	3.6	3.6	4.6	4.9	2.9	1.9
Writing only	1.1	1.7	1.4	1.0	1.0	0.8	0.8	0.8	0.6	0.9
Finger spelling only	0.8	0.4	0.9	0.5	0.5	1.3	1.3	1.2	0.6	0.4
Sign language only	2.6	2.5	1.7	2.6	2.3	3.2	2.8	3.9	3.5	1.9
Miscellaneous methods	3.3	2.2	2.4	2.5	2.0	6.4	6.6	5.2	3.5	1.2
Using no means of communication	2.0	1.4	1.6	1.7	2.1	3.2	3.1	2.4	1.9	1.4
Reporting use of—										
Speech	41.3	59.8	50.9	39.0	34.9	38.1	28.3	30.2	47.3	44.6
Writing	80.2	74.9	83.7	80.5	84.2	75.8	77.2	75.7	80.6	83.3
Finger spelling	76.4	58.2	78.1	75.8	82.3	75.5	80.3	77.7	78.2	77.7
Sign language	78.2	63.8	76.6	79.4	84.3	76.8	80.2	79.9	80.9	79.8
Miscellaneous methods	3.5	2.5	2.4	2.8	2.4	6.5	6.6	5.4	3.8	1.3

[1] Includes those whose age was not reported.

[2] Based upon the number reporting as to means of communication.

[3] Less than one-tenth of 1 per cent.

In the exclusive use of speech, New England is far ahead of any other division, with practically one-seventh (13.9 per cent) of its deaf-mute population so qualified. The high proportion of deaf-mutes using speech in this section is explained by the fact that Massachusetts has long been the home and the chief stronghold, in the United States, of the oral movement in the instruction of deaf-mute children, in large part to the exclusion of other methods.

The differences among the geographic divisions with respect to nonoral methods are not great and possess no particular significance, apart from the generally lower proportions in New England. The use of both the sign language and finger spelling are found somewhat more frequently in the West North Central, East South Central, and Mountain divisions; and the use of writing, in the West North Central, Middle Atlantic, and Pacific divisions. The relatively lower proportions reporting writing and the relatively higher proportions reporting miscellaneous methods as means of communication in the southern divisions are doubtless in great measure due to the large negro population there, education among negro deaf-mutes being less fully developed than among white. In general, the methods in different areas, as shown by the census figures, are but reflections of the different methods employed in the schools for the deaf in those areas.

Race and nativity.—In Table 43 are shown the reported means of communication, for each of the principal race and nativity groups.

TABLE 43.—DEAF-MUTES 10 YEARS OF AGE AND OVER, BY RACE, NATIVITY, AND REPORTED MEANS OF COMMUNICATION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED MEANS OF COMMUNICATION	All classes	WHITE			Negro	Other colored
		Total	Native	Foreign-born		
	NUMBER [1]					
Total	31,230	29,784	27,228	2,556	1,344	102
Reporting as to means of communication	29,720	28,545	26,138	2,407	1,079	96
Using speech only	1,576	1,536	1,396	140	35	5
Using speech in combination with—						
All other methods	10,710	10,517	9,754	763	171	22
Writing, finger spelling, and sign language	7,526	7,410	6,907	503	101	15
Writing and finger spelling	449	439	411	28	9	1
Writing and sign language	433	423	377	46	9	1
Finger spelling and sign language	311	301	285	16	9	1
Writing only	1,575	1,558	1,426	132	15	2
Finger spelling only	59	56	49	7	2	1
Sign language only	295	269	243	26	25	1
Miscellaneous methods	62	61	56	5	1	-------
Not using speech but using—						
All other methods	16,828	15,948	14,490	1,458	814	66
Writing, finger spelling, and sign language	12,488	12,068	11,126	942	395	25
Writing and finger spelling	635	572	522	50	60	3
Writing and sign language	416	399	342	57	16	1
Finger spelling and sign language	1,007	953	872	81	51	3
Writing only	319	302	263	39	16	1
Finger spelling only	228	204	181	23	23	1
Sign language only	761	706	611	95	50	5
Miscellaneous methods	974	744	573	171	203	27
Using no means of communication	606	544	498	46	59	3
Not reporting as to means of communication	1,510	1,239	1,090	149	265	6
Reporting themselves as able to speak	368	339	308	31	29	-------
Reporting themselves as unable to speak	878	747	634	113	126	5
Not reporting as to ability to speak	264	153	148	5	110	1
Reporting use of—						
Speech	12,286	12,053	11,150	903	206	27
Writing	23,841	23,171	21,374	1,797	621	49
Finger spelling	22,703	22,003	20,353	1,650	650	50
Sign language	23,237	22,529	20,763	1,766	656	52
Miscellaneous methods	1,036	805	629	176	204	27
	PER CENT DISTRIBUTION [2]					
Total	100.0	100.0	100.0	100.0	100.0	-------
Using speech only	5.3	5.4	5.3	5.8	3.2	-------
Using speech in combination with—						
All other methods	36.0	36.8	37.3	31.7	15.8	-------
Writing, finger spelling, and sign language	25.3	26.0	26.4	20.9	9.4	-------
Writing and finger spelling	1.5	1.5	1.6	1.2	0.8	-------
Writing and sign language	1.5	1.5	1.4	1.9	0.8	-------
Finger spelling and sign language	1.0	1.1	1.1	0.7	0.8	-------
Writing only	5.3	5.5	5.5	5.5	1.4	-------
Finger spelling only	0.2	0.2	0.2	0.3	0.2	-------
Sign language only	1.0	0.9	0.9	1.1	2.3	-------
Miscellaneous methods	0.2	0.2	0.2	0.2	0.1	-------

See footnotes at end of table.

TABLE 43.—DEAF-MUTES 10 YEARS OF AGE AND OVER, BY RACE, NATIVITY, AND REPORTED MEANS OF COMMUNICATION, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

REPORTED MEANS OF COMMUNICATION	All classes	WHITE			Negro	Other colored
		Total	Native	Foreign-born		
	PER CENT DISTRIBUTION [2]					
Not using speech but using—						
All other methods	56.6	55.9	55.4	60.6	75.4	-------
Writing, finger spelling, and sign language	42.0	42.3	42.6	39.1	36.6	-------
Writing and finger spelling	2.1	2.0	2.0	2.1	5.6	-------
Writing and sign language	1.4	1.4	1.3	2.4	1.5	-------
Finger spelling and sign language	3.4	3.3	3.3	3.4	4.7	-------
Writing only	1.1	1.1	1.0	1.6	1.5	-------
Finger spelling only	0.8	0.7	0.7	1.0	2.1	-------
Sign language only	2.6	2.5	2.3	3.9	4.6	-------
Miscellaneous methods	3.3	2.6	2.2	7.1	18.8	-------
Using no means of communication	2.0	1.9	1.9	1.9	5.5	-------
Reporting use of—						
Speech	41.3	42.2	42.7	37.5	19.1	-------
Writing	80.2	81.2	81.8	74.7	57.6	-------
Finger spelling	76.4	77.1	77.9	68.6	60.2	-------
Sign language	78.2	78.9	79.4	73.4	60.8	-------
Miscellaneous methods	3.5	2.8	2.4	7.3	18.9	-------

[1] Includes those whose age was not reported.

[2] Based upon the number reporting as to means of communication. Per cent not shown where base is less than 100.

Speech is used by proportionately twice as many white deaf-mutes as negro deaf-mutes, the percentage for the former being 42.2 and for the latter 19.1. Speech, furthermore, is used to a somewhat greater extent among native whites than among foreign born, the percentage for the former being 42.7 and for the latter 37.5. The foreign born, however, have a slightly larger proportion than the native born who use speech exclusively, a circumstance possibly to be explained by the proximity of the foreign born in cities to schools using the pure oral method. Writing, finger spelling, and the sign language are all used to a greater extent by the whites than negroes, and by native whites than by foreign-born—for the most part with fairly equal proportions among the several groups. Miscellaneous methods, mainly natural signs, are found in just the reverse order among the three groups. Nearly one-fifth (18.9 per cent) of negroes and almost one-twelfth (7.3 per cent) of foreign-born whites employ this limited means of communication, as compared with only 2.4 per cent for native whites.

The methods employed by the several groups may be taken as an approximate measure of the extent to which they have attended school. (See Table 37, p. 55.) The proportions for all the methods except miscellaneous methods bear a rather close correspondence to the proportions for attendance at school. The very high proportion among negro deaf-mutes reporting miscellaneous methods indicates particularly their great lack of educational opportunities. The same is true, though in a less degree, for many of the foreign-born whites.

Age when hearing was lost.—In Table 44 are given figures as to methods of communication, according to age of the occurrence of deafness.

TABLE 44.—DEAF-MUTES 10 YEARS OF AGE AND OVER REPORTING AGE WHEN HEARING WAS LOST, BY REPORTED MEANS OF COMMUNICATION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED MEANS OF COMMUNICATION	Total	Deafness congenital	DEAFNESS ACQUIRED					
			Total	At less than 10 years of age			At 10 years of age or over	At age not reported
				At less than 5 years of age[1]	At 5 to 9 years of age	Childhood (exact age not reported)		
	NUMBER [2]							
Total	31,230	11,574	19,656	14,885	3,386	467	250	668
Reporting as to means of communication	29,720	10,853	18,867	14,433	3,215	429	227	563
Using speech only	1,576	418	1,158	662	363	48	34	51
Using speech in combination with—								
All other methods	10,710	3,325	7,385	5,278	1,618	161	117	211
Writing, finger spelling, and sign language	7,526	2,299	5,227	3,770	1,144	102	69	142
Writing and finger spelling	449	147	302	220	68	4	4	6
Writing and sign language	433	149	284	219	47	7	1	10
Finger spelling and sign language	311	89	222	126	73	4	12	7
Writing only	1,575	499	1,076	759	224	34	25	34
Finger spelling only	59	20	39	27	9	------	2	1
Sign language only	295	104	191	124	45	8	3	11
Miscellaneous methods	62	18	44	33	8	2	1	------
Not using speech but using—								
All other methods	16,828	6,788	10,040	8,292	1,194	213	70	271
Writing, finger spelling, and sign language	12,488	4,752	7,736	6,544	820	160	34	178
Writing and finger spelling	635	292	343	267	54	4	4	14
Writing and sign language	416	170	246	189	38	9	1	9
Finger spelling and sign language	1,007	456	551	443	79	12	1	16
Writing only	319	131	188	127	40	8	5	8
Finger spelling only	228	114	114	89	15	1	4	5
Sign language only	761	358	403	303	55	15	6	24
Miscellaneous methods	974	515	459	330	93	4	15	17
Using no means of communication	606	322	284	201	40	7	6	30
Not reporting as to means of communication	1,510	721	789	452	171	38	23	105
Reporting themselves as able to speak	368	157	211	125	68	9	1	8
Reporting themselves as unable to speak	878	438	440	266	84	17	16	57
Not reporting as to ability to speak	264	126	138	61	19	12	6	40
Reporting use of—								
Speech	12,286	3,743	8,543	5,940	1,981	209	151	262
Writing	23,841	8,439	15,402	12,095	2,435	328	143	401
Finger spelling	22,703	8,169	14,534	11,486	2,262	287	130	369
Sign language	23,237	8,377	14,860	11,718	2,301	317	127	397
Miscellaneous methods	1,036	533	503	363	101	6	16	17
	PER CENT DISTRIBUTION [3]							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Using speech only	5.3	3.9	6.1	4.6	11.3	11.2	15.0	9.1
Using speech in combination with—								
All other methods	36.0	30.6	39.1	36.6	50.3	37.5	51.5	37.5
Writing, finger spelling, and sign language	25.3	21.2	27.7	26.1	35.6	23.8	30.4	25.2
Writing and finger spelling	1.5	1.4	1.6	1.5	2.1	0.9	1.8	1.1
Writing and sign language	1.5	1.4	1.5	1.5	1.5	1.6	0.4	1.8
Finger spelling and sign language	1.0	0.8	1.2	0.9	2.3	0.9	5.3	1.2
Writing only	5.3	4.6	5.7	5.3	7.0	7.9	11.0	6.0
Finger spelling only	0.2	0.2	0.2	0.2	0.3	------	0.9	0.2
Sign language only	1.0	1.0	1.0	0.9	1.4	1.9	1.3	2.0
Miscellaneous methods	0.2	0.2	0.2	0.2	0.2	0.5	0.4	------

See footnotes at end of table.

TABLE 44.—DEAF-MUTES 10 YEARS OF AGE AND OVER REPORTING AGE WHEN HEARING WAS LOST, BY REPORTED MEANS OF COMMUNICATION, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

REPORTED MEANS OF COMMUNICATION	Total	Deafness congenital	DEAFNESS ACQUIRED					
			Total	At less than 10 years of age			At 10 years of age or over	At age not reported
				At less than 5 years of age [1]	At 5 to 9 years of age	Childhood (exact age not reported)		
	PER CENT DISTRIBUTION [3]							
Not using speech but using—								
All other methods	56.6	62.5	53.2	57.5	37.1	49.7	30.8	48.1
Writing, finger spelling, and sign language	42.0	43.8	41.0	45.3	25.5	37.3	15.0	31.6
Writing and finger spelling	2.1	2.7	1.8	1.8	1.7	0.9	1.8	2.5
Writing and sign language	1.4	1.6	1.3	1.3	1.2	2.1	0.4	1.6
Finger spelling and sign language	3.4	4.2	2.9	3.1	2.5	2.8	0.4	2.8
Writing only	1.1	1.2	1.0	0.9	1.2	1.9	2.2	1.4
Finger spelling only	0.8	1.1	0.6	0.6	0.5	0.2	1.8	0.9
Sign language only	2.6	3.3	2.1	2.1	1.7	3.5	2.6	4.3
Miscellaneous methods	3.3	4.7	2.4	2.3	2.9	0.9	6.6	3.0
Using no means of communication	2.0	3.0	1.5	1.4	1.2	1.6	2.6	5.3
Reporting use of—								
Speech	41.3	34.5	45.3	41.2	61.6	48.7	66.5	46.5
Writing	80.2	77.8	81.6	83.8	75.7	76.5	63.0	71.2
Finger spelling	76.4	75.3	77.0	79.6	70.4	66.9	57.3	65.5
Sign language	78.2	77.2	78.8	81.2	71.6	73.9	55.9	70.5
Miscellaneous methods	3.5	4.9	2.7	2.5	3.1	1.4	7.0	3.0

[1] Includes those reported as having lost hearing in infancy but without statement as to exact age.
[2] Includes those whose age at enumeration was not reported.
[3] Based upon the number reporting as to means of communication.

Among congenital deaf-mutes and among adventitious deaf-mutes on the whole the use of nonoral methods predominates over oral; but among those with deafness acquired at the period 5 to 9 years the oral method leads, as it does among those becoming deaf at a later age. The proportion of deaf-mutes employing speech increases constantly with the advance of the age of the loss of hearing, the percentage for the congenital being 34.5; for those losing hearing under 5 years of age, 41.2; for those losing hearing from 5 to 9, 61.6; and for those losing hearing at 10 or over, 66.5. All this brings out forcibly what has previously been said, namely, that the later the age when the loss of hearing occurs, the greater and more permanent becomes the power of speech acquired theretofore. With certain adventitious deaf-mutes, furthermore, it is likely that there may have been a vestige of hearing left, which has been found of aid in the matter of retaining speech. The notable rise in the use of speech for persons from 5 to 9 years of age is an indication of the special adaptability of persons of this age period to oral instruction.

Nonoral methods generally, with the exception of miscellaneous methods, have their highest proportions among those becoming deaf in infancy and early childhood, and their next highest proportions among the congenitally deaf, the proportions for groups over 5 years of age steadily declining. Though the differences in the decreases for the several methods are not great, the smallest is shown in the case of writing and the greatest in the case of the sign language. The smaller decrease for writing is because of the opportunity of those who have become deaf at a relatively late age to attend school. The larger decrease for the sign language is because of the difficulty of persons who have become deaf at a relatively late age to acquire a new language—a difficulty greater than in the case of finger spelling, which involves simply the learning on the fingers of an alphabet already known. The highest proportion reporting miscellaneous methods is for those losing hearing at 10 years or over and the next highest for the congenital. The highest proportions reporting no method of communication are for the two foregoing groups, but in reverse order.

Ability to read lips.—Akin to the ability of deaf-mutes to use articulate speech, though in fact a separate and distinct art, despite the frequent confusion of the two in the popular mind, is the ability to read the lips, or to understand what is said by watching the motions of the mouth. In the teaching of speech to deaf-mutes a very important feature is the teaching of lip reading. The two things represent really different achievements, one proving of greater advantage at certain times than the other, and individuals may possess one of these in greater degree than the other, yet to a large extent they go hand in hand and one may be regarded as supplementing the other. As speech is designed to help deaf-mutes overcome in some measure their "dumbness" or "mutism," so lip reading is designed to help them overcome in some measure their lack of hearing. Furthermore, just as some qualification has to be placed upon the "speech" used by deaf-mutes, so some qualification has to be placed upon the lip reading with which they are credited. Their ability in this respect varies from an ability to understand certain simple and easy expressions to an ability to follow protracted discourse. Though a sort of lip reading is possible without technical instruction, being gleaned by diligent application, or in more exceptional cases by general quickness of eye or of brain, the results here are apt to be more or less vague, and broadly speaking, can be relied upon only for occasional use rather than as a regular means of communication. For permanent and effective service lip reading requires special systematized instruction, this instruction usually proceeding, as has been already indicated, in accompaniment with instruction in speech. The factors making for progress in lip reading are little different from those required for progress in speech.

Table 45 shows, for 1920 and 1910, by sex, the number of deaf-mutes returning special schedules and reporting as to ability to read the lips.

TABLE 45.—DEAF-MUTES 10 YEARS OF AGE AND OVER, BY SEX, AND ABILITY TO READ LIPS, FOR THE UNITED STATES: 1920 AND 1910

[Figures relate only to deaf-mutes returning special schedules]

SEX	Total[1]	REPORTING AS TO ABILITY TO READ LIPS				Not reporting as to ability to read lips
		Total	Able to read lips		Unable to read lips	
			Number	Per cent		
Both sexes: 1920	31,230	29,422	16,901	57.4	12,521	1,808
Males	17,176	16,227	8,544	52.7	7,683	949
Females	14,054	13,195	8,357	63.3	4,838	859
Both sexes: 1910	17,000	16,611	5,457	32.9	11,154	389
Males	9,328	9,113	2,682	29.4	6,431	215
Females	7,672	7,498	2,775	37.0	4,723	174

[1] Includes those whose age was not reported.

Almost three-fifths (57.4 per cent) of deaf-mutes reporting stated that they were able to read the lips—a considerably higher proportion, it will be noted, than for those reported as able to use speech in communication (41.3 per cent). It is possible that some not making reply to this inquiry are really unable to read the lips, a circumstance that would somewhat reduce the proportion indicated as having this ability. It is likewise possible that some are reported able to read lips when this ability is but slight, though special efforts were made to include only those who had had some instruction in the schools. As with speech, female deaf-mutes make a better showing in lip reading than do male, almost two-thirds (63.3 per cent) of the former possessing this qualification, as against a little over one-half (52.7 per cent) for the latter. Since 1910, as with the use of speech, there has been a notable increase in the proportion able to read lips, this proportion falling only a little short of doubling itself, apparently, in that period.[22] The considerations which were suggested as accounting for the indicated increase in the use of speech are applicable here as well. In the figures shown, however, there is ample evidence afforded of the increasing emphasis that is being given to lip reading as well as to speech, in the teaching in the special schools for the deaf, and also of the increasing use being made thereof after the period of schooling.

Table 46 shows the number of deaf-mutes 10 years of age and over reporting as to ability to read lips, for the several geographic divisions in 1920, with comparative data for 1910.

TABLE 46.—DEAF-MUTES 10 YEARS OF AGE AND OVER REPORTING AS TO ABILITY TO READ LIPS, BY GEOGRAPHIC DIVISIONS: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

GEOGRAPHIC DIVISION	1920			1910		
	Total [1]	Able to read lips		Total [1]	Able to read lips	
		Number	Per cent of total		Number	Per cent of total
United States	29, 422	16, 901	57. 4	16, 611	5, 457	32. 9
New England	2, 269	1, 684	74. 2	1, 028	464	45. 1
Middle Atlantic	5, 852	3, 829	65. 4	3, 440	1, 432	41. 6
East North Central	7, 499	4, 035	53. 8	3, 872	1, 249	32. 3
West North Central	3, 929	2, 006	51. 1	2, 491	709	28. 5
South Atlantic	3, 365	1, 922	57. 1	1, 973	566	28. 7
East South Central	2, 046	1, 094	53. 5	1, 593	457	28. 7
West South Central	2, 326	1, 069	46. 0	1, 410	363	25. 7
Mountain	788	498	63. 2	306	105	34. 3
Pacific	1, 348	764	56. 7	498	112	22. 5

[1] Includes those whose age was not reported.

The ranking of these divisions is to some extent the same as in the case of the use of speech. For lip reading, also, the New England, Middle Atlantic, and Mountain divisions come first, with 74.2 per cent, 65.4 per cent, and 63.2 per cent, respectively. The South Atlantic division, however, which has sixth place as to speech, has 57.1 per cent for lip reading, passing both the Pacific and the East North Central divisions, with 56.7 per cent and 53.8 per cent, respectively. The last three divisions, in order as respects lip reading, are the East South Central, West North Central, and West South Central, with 53.5 per cent, 51.1 per cent, and 46 per cent, respectively. Since 1910, the Pacific division has advanced from ninth to fifth place, and the East North Central division has dropped from fourth to sixth place.

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[22] In the schedule for 1920 the inquiry as to ability to read the lips included the word "ordinarily," and this would presumably have served to reduce the number reporting this ability.

Table 47 shows figures for deaf-mutes 10 years of age and over returning special schedules and those reporting as to ability to read the lips, distributed according to sex and race and nativity groups, for 1920 and 1910.

TABLE 47.—DEAF-MUTES 10 YEARS OF AGE AND OVER, BY RACE, NATIVITY, SEX, AND ABILITY TO READ LIPS, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

SEX, RACE, AND NATIVITY	Total, 1920[1]	REPORTING AS TO ABILITY TO READ LIPS						
		Total, 1920	Able to read lips				Unable to read lips	
			Number		Per cent		1920	1910
			1920	1910	1920	1910		
BOTH SEXES								
All classes	31,230	29,422	16,901	5,457	57.4	32.9	12,521	11,154
White	29,784	28,158	16,297	5,163	57.9	33.1	11,861	10,423
Native	27,228	25,705	14,979	4,535	58.3	32.7	10,726	9,351
Foreign-born	2,556	2,453	1,318	628	53.7	36.9	1,135	1,072
Negro	1,344	1,165	559	280	48.0	29.0	606	686
Other colored	102	99	45	14	(2)	(2)	54	45
MALES								
All classes	17,176	16,227	8,544	2,682	52.7	29.4	7,683	6,431
White	16,414	15,560	8,246	2,528	53.0	29.5	7,314	6,027
Native	14,958	14,159	7,557	2,202	53.4	28.9	6,602	5,409
Foreign-born	1,456	1,401	689	326	49.2	34.5	712	618
Negro	704	610	276	144	45.2	27.4	334	381
Other colored	58	57	22	10	(2)	(2)	35	23
FEMALES								
All classes	14,054	13,195	8,357	2,775	63.3	37.0	4,838	4,723
White	13,370	12,598	8,051	2,635	63.9	37.5	4,547	4,396
Native	12,270	11,546	7,422	2,333	64.3	37.2	4,124	3,942
Foreign-born	1,100	1,052	629	302	59.8	39.9	423	454
Negro	640	555	283	136	51.0	30.8	272	305
Other colored	44	42	23	4	(2)	(2)	19	22

[1] Includes those whose age was not reported and those not reporting as to ability to read lips.
[2] Per cent not shown, base being less than 100.

The proportion for lip reading, as in the use of speech, is higher for whites (57.9 per cent) than for negroes (48 per cent), and it is higher for native whites (58.3 per cent) than for the foreign-born (53.7 per cent). Since 1910 the proportions for all the groups have increased, but apparently the increase in those able to read lips has been least in the case of foreign-born whites.

In all classes the proportion for lip reading is greater for females than for males, though with negroes the difference between the sexes in the proportion is not so great as with the other two groups; this is explained partly by the fact that attendance at schools by female negroes is not so great relatively as by male.[23]

Table 48 gives figures for 1920 and 1910, showing the proportion of lip reading according to the age when deafness occurred.

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[23] Males, 64.8 per cent and females, 61.7 per cent. See Deaf-mutes in the United States, 1920.

TABLE 48.—DEAF-MUTES 10 YEARS OF AGE AND OVER REPORTING AS TO ABILITY TO READ LIPS, BY AGE WHEN HEARING WAS LOST, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	1920				1910			
	Total [1]	Able to read lips		Unable to read lips	Total [1]	Able to read lips		Unable to read lips
		Number	Per cent of total			Number	Per cent of total	
Total	29, 422	16, 901	57. 4	12, 521	16, 611	5, 457	32. 9	11, 154
Deafness congenital	10, 775	5, 600	52. 0	5, 175	6, 294	1. 796	28. 5	4, 498
Deafness acquired [2]	18, 647	11, 301	60. 6	7, 346	10, 317	3, 661	35. 5	6, 656
At age of—								
Less than 5 years [3]	14, 262	8, 254	57. 9	6, 008	8. 152	2, 699	33. 1	5, 453
5 to 9 years	3, 247	2, 391	73. 6	856	1, 523	759	49. 8	764
Childhood [4]	372	217	58. 3	155	(5)	(5)	(5)	(5)
10 years or over	233	148	63. 5	85	136	34	25. 0	102
Age not reported	533	291	54. 6	242	506	169	33. 4	337

[1] Includes those whose age was not reported.
[2] Includes those for whom the age when hearing was lost was not reported.
[3] Includes those reported as having lost their hearing in infancy but without statement as to the exact age.
[4] Exact age not reported.
[5] Not shown separately in 1910.

The proportions, least in the case of congenital deafness, rise with the age of the loss of hearing, through early childhood, or up to the period 5 to 9 years; but at 10 years and over the proportion is smaller than for the previous period. This, again, is similar to the progression in the proportions showing the use of speech. The increases, however, from one period to another are only moderate. The reason for the different proportions at these periods is readily explained by the circumstance that, as lip reading is as a rule attendant upon speech, the longer that speech is retained in childhood, or the later the onset of deafness with its hampering of normal speech, the greater becomes the ability to acquire skill in the reading of the lips. The fact that the proportion for those who lost hearing at 10 or over is lower than that for the preceding period need have no special significance. The numbers are few, and probably the situation is influenced by other factors, including, of course, less aptitude to acquire lip reading on the part of persons whose hearing is lost at a relatively late period in life. The increases over 1910 are at a fairly uniform rate for the several groups, except at 10 years of age and over. Here the increase is exceptionally large, which fact may quite possibly be taken to mean that, with more facilities available, adult deaf-mutes losing hearing after childhood are now mastering more readily the art of lip reading.

ECONOMIC CONDITION

In the lack of the sense of hearing, and with it, generally, the absence of normal and readily intelligible speech, deaf-mutes are deprived of most important powers, and, as might at first appear, of necessary equipment for participation in the economic life of the community. Yet, notwithstanding the particular handicap under which deaf-mutes have to labor, and against which they have constantly to contend, they are, as a class, quite "able-bodied" in all other respects and remain in full possession of all their other physical forces, some of which may partially serve as a substitute for their lost faculties; while a variety of occupations, even though by no means as wide as for the general population, may be found possible for them, in which their peculiar handicap may not prove a serious drawback or material impediment. Some pursuits are of such nature as to preclude the entrance of persons suffering under the infirmity of deaf-mutism, or else to allow the entrance of such persons only under heavy disability, but there may be open to this class other pursuits, in which competency does not depend upon hearing and speech, to which they may turn with fair chances of satisfactory employment. In fact, in some callings the care, steadiness, application, and concentration upon work which may be expected generally to characterize the labor of deaf-mutes may prove a certain offset to their handicap. Furthermore, with suitable trade training in particular, and with skillful and efficient workmanship on their part, the obstacles in their industrial path may be greatly minimized. Hence, there appears to be a considerable field in which deaf-mutes may engage remuneratively, so that they may constitute a self-sustaining and productive element of the community. This view of the economic possibilities of deaf-mutes finds support in the results of the census investigations. Especially in the contrast of the occupations of this class with those of the general population may be discovered the extent to which deaf-mutism acts as a barrier or limitation in the common economic endeavors of men.

Race, nativity, and sex of the gainfully occupied.—In Table 49 are shown, for deaf-mutes 10 years of age and over returning special schedules, classified according to race and nativity classes, the number of males and of females gainfully occupied and the percentage which these constitute of the total number, a like percentage for 1910, together with the corresponding percentage for the general population.

Of all male deaf-mutes 10 years of age and over practically three-fifths (59.4 per cent) are gainfully occupied. This proportion is considerably less than that for the general population, which is almost four-fifths (78.2 per cent). It must be remembered in this connection that deaf-mute children generally remain in school to a later age than do children in general; if the figures related to persons 20 years and over, who are gainfully occupied, instead of to persons 10 years and over, the difference between the proportions for the two groups would doubtless be considerably reduced.[24] With this qualification, the difference in the respective proportions may be said to indicate the extent to which deaf-mutism acts as an individual handicap in economic activity and the extent to which it constitutes an economic loss to the community.

With respect to females the difference between the proportion gainfully occupied for deaf-mutes and for the general population is relatively small. For the former it is a little under one-fifth (17.7 per cent) and for the latter slightly over one-fifth (21.1 per cent). With both groups the proportions occupied are much smaller for females than for males, because of the great number of females in each group who are dependent on a male breadwinner for support and thus are not under the necessity of following independent economic pursuits, while at the same time many in each group are actually engaged as home makers or in household duties.

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[24] In 1900 the proportion of deaf-mutes gainfully occupied was one-third greater for those 20 years of age and over than for those 10 and over. Bureau of the Census, The Blind and the Deaf, 1900, p. 147.

TABLE 49.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY RACE, NATIVITY, AND SEX, FOR THE UNITED STATES: 1920 AND 1910

[Figures for deaf-mutes include only those returning special schedules]

RACE AND NATIVITY	NUMBER, 1920[1]				PER CENT GAINFULLY OCCUPIED				PER CENT GAINFULLY OCCUPIED IN GENERAL POPULATION 10 YEARS OF AGE AND OVER OF SAME RACE AND NATIVITY, 1920[1]	
	Total		Gainfully occupied		1920		1910			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All classes	17,176	14,054	10,196	2,482	59.4	17.7	60.7	15.8	78.2	21.1
White	16,414	13,370	9,775	2,275	59.6	17.0	60.7	14.4	77.9	19.2
Native	14,958	12,270	8,746	2,005	58.5	16.3	59.9	13.4	75.1	19.3
Foreign-born	1,456	1,100	1,029	270	70.7	24.5	67.0	23.5	89.3	18.4
Negro	704	640	382	196	54.3	30.6	60.7	37.9	81.1	38.9
Other colored	58	44	39	11	(2)	(2)	(2)	(2)	75.4	13.7

[1] Includes those whose age was not reported.

[2] Per cent not shown, base being less than 100.

There is a slight decrease since 1910 in the proportion of male deaf-mutes gainfully occupied, corresponding to a decrease for occupied males in the general population. On the other hand, there has been a perceptible increase in the case of female deaf-mutes, in keeping with the apparent movement of females in general toward gainful occupation, though census figures show that there has been for females in the general population an actual decrease since 1910 in the percentage gainfully occupied.[25]

Among male deaf-mutes, whites have a larger proportion who are gainfully occupied than have negroes. Foreign-born whites have a larger proportion than native. The percentage for foreign-born whites is 70.7, for native whites 58.5, and for negroes 54.3. These percentages correspond roughly to those for the general population, except that the percentage for negro deaf-mutes is considerably less than that for negroes in the general population. This latter circumstance may perhaps be taken to indicate that negro deaf-mutes have, on the whole, inferior school advantages, including vocational training, while at the same time their affliction proves a considerable handicap in various unskilled pursuits in which negroes generally may engage. The reason for the larger proportion of foreign-born whites than of native whites among deaf-mutes who are gainfully occupied, as well as in the general population, is probably the greater necessity for remunerative work among the former (a compulsion extending even to the more youthful members of the group), together with their tendency to congregate in urban centers, where opportunities for such work are more abundant. Among males the foreign-born whites, furthermore, are the only group having a higher proportion gainfully occupied in 1920 than in 1910, though the decreases for the native whites and negroes, as before indicated, probably only reflect the proportionate decrease which has taken place in that period among males gainfully occupied in the general population.

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[25] Cf. Fourteenth Census reports, 1920, Vol. IV.

Among female deaf-mutes, on the other hand, negroes have the largest proportion gainfully occupied, followed by foreign-born whites, with the native whites last, the respective percentages being 30.6, 24.5, and 16.3. The high proportion for negroes, both among deaf-mutes and in the population at large, is clearly an indication of the large extent to which negro females in general go into industry, especially work of a manual nature. It is to be noted, however, that while among whites the proportion gainfully occupied has increased since 1910 to a greater extent, even, than with the general population, there has been with negroes a noticeable decrease, natural enough in view of the fact that there has been a decrease in the same period in the percentage of females occupied among negroes in the general population. While native white and negro deaf-mutes have smaller proportions occupied than the general population, foreign-born white deaf-mutes have a proportion actually greater—a condition all the more remarkable by reason of the fact that foreign-born white females in the general population enter gainful occupations to a slightly less extent than do native whites. The explanation of this situation as to foreign-born female deaf-mutes may be that they do not marry so frequently or at as early an age as foreign-born females in general, and are thus to a greater degree under the necessity of providing their own livelihood. This group, while showing a certain increase since 1910 in the percentage gainfully occupied, as against a decrease in the proportion among the general foreign-born population, has not made quite as large a gain as the native whites. The constantly extending opportunities for women in gainful occupations possibly are more open to the native than to the foreign-born population.

Occupational groups.—Table 50 shows the percentage distribution in 1920 and 1910 of deaf-mutes and of the general population, and of males and females separately, by broad occupational groups. From this table may be discovered in which class of pursuits deaf-mutism constitutes the most or the least serious handicap. For purposes of comparison with the general population the number of deaf-mutes reporting unclassifiable occupations have been deducted from the total before the computation of the percentages.

TABLE 50.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED—PER CENT DISTRIBUTION BY SEX AND OCCUPATIONAL GROUPS, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

OCCUPATIONAL GROUP	DEAF-MUTES [1]						GENERAL POPULATION, 1920 [1]		
	1920			1910					
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Total [2]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry, and animal husbandry	24.4	26.5	15.1	34.5	39.3	13.6	26.3	29.8	12.7
Extraction of minerals	0.5	0.6	------	0.8	1.0	------	2.6	3.3	(3)
Manufacturing and mechanical industries	58.7	61.5	46.7	47.5	48.4	43.3	30.8	32.9	22.6
Transportation	1.2	1.4	0.2	1.4	1.7	0.2	7.4	8.6	2.5
Trade	1.9	2.0	1.6	2.6	2.8	1.8	10.2	10.8	7.8
Public service	0.4	0.4	0.2	0.3	0.4	0.1	1.9	2.3	0.3
Professional service	2.3	2.2	2.9	2.2	2.1	2.3	5.2	3.4	11.9
Domestic and personal service	8.7	3.5	31.1	9.8	3.5	37.5	8.2	3.7	25.6
Clerical occupations	1.9	1.8	2.3	0.9	0.8	1.3	7.5	5.1	16.7

[1] Includes those whose age was not reported.
[2] Exclusive of unclassifiable occupations.
[3] Less than one-tenth of 1 per cent.

Much the largest proportion of deaf-mutes gainfully employed are in manufacturing and mechanical industries, almost three-fifths (58.7 per cent) being so engaged. Though in the general population this occupational group has a larger number of followers than any other (30.8 per cent), this percentage is only a little more than one-half the proportion shown for deaf-mutes.[26] In domestic and personal service the proportion for deaf-mutes is also greater than for the general population. In this case, however, the proportion for deaf-mutes, 8.7 per cent, is only slightly greater. In all the remaining occupational groups the proportion for deaf-mutes is less than for the general population. Practically one-fourth (24.4 per cent) of deaf-mutes are engaged in agriculture, forestry, and animal husbandry, a proportion a little below that for the population at large. Few deaf-mutes are engaged in professional service—2.3 per cent, a proportion a little less than one-half of that for the general population. Even fewer enter trade, only 1.9 per cent of the total occupied being so engaged, a proportion a little less than one-fifth as large as that for the general population. In clerical occupations the proportion is also 1.9 per cent, in this case about one-fourth of that for the general population. The percentage of deaf-mutes engaged in transportation is 1.2 per cent, which is a proportion only about one-sixth that for the population at large. The representation of deaf-mutes in this occupation is relatively the least of all. In extraction of minerals are 0.5 per cent of the total, and in public service 0.4 per cent, each of which is about one-fifth as large as the corresponding proportions in the general population.

The reasons that manufacturing and mechanical industries present the least difficulties to deaf-mutes, as means of gainful employment, are not far to seek. These occupations in general are of such nature as not to necessitate dependence upon hearing and speech for their successful prosecution, dexterity of hand, combined with concentration of the mind, being the chief essential. Special training does much to promote the mastery of a trade of such character, and this training is now one of the most important considerations in the work of the special schools. On general principles, farming would seem to be a very desirable occupation for deaf-mutes, their deafness being relatively little of a handicap in it. The reason for the smaller proportion of deaf-mutes engaged in farming, as compared with the general population, must be that there is an even more pronounced cityward trend with them than with the population as a whole, a particular inducement in the case of deaf-mutes being the desire for association with fellow deaf-mutes. There is a larger proportion of deaf-mutes than of the general population in domestic and personal service, which is in part a reflection of the lowered proportions for the former group in other occupations, but an indication also of the capacity of deaf-mutes, especially female, to carry on different pursuits in this field. The comparatively large proportion of deaf-mutes engaged in professional services is largely explained by the fact that a considerable number are engaged in teaching, practically altogether the teaching of deaf-mute children.

It thus appears that deaf-mutism constitutes rather an effectual barrier to any considerable participation in certain callings, especially those of a commercial or mercantile character; but though restricted, there are occasionally even in these callings fairly successful entry by deaf-mutes. In particular occupations, especially in what are known as trades, deaf-mutes are generally able to compete with other persons.

As between the sexes, the proportion of male deaf-mutes is relatively greater in extraction of minerals, transportation, public service, agriculture and allied industries, manufacturing and mechanical industries, and trade; and of female deaf-mutes, in domestic and personal service, professional service, and clerical occupations. These are the occupations in which the respective sexes predominate in the general population, though in somewhat different order. Probably not a few of the females reported as engaged in agriculture only assist in various farming operations or are widows or daughters of a deceased farm operator. The relatively high proportion for females in domestic and personal service is doubtless attributable to their greater adaptability to certain particular occupations of this character. There is a considerably smaller proportion of females among deaf-mutes in professional service than in the general population, largely because of the great number of female school-teachers in the latter group.

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[26] It is possible that the tabulation of occupations under the head of "Laborers, building, general, and not specified," is not entirely consistent in the two groups. See Table 98, p. 152; see also Fourteenth Census reports, 1920, Vol. IV.

Since 1910 there has been a considerable decline in the proportion of deaf-mutes engaged in agriculture and allied industries, as compared with the total number in all callings, a decline nearly twice as great as in the case of the general population.[27] This is further evidence of the decided drift of deaf-mutes to the city, already referred to. There have also been decreases in the percentages for extraction of minerals, transportation, trade, and domestic and personal service. In the remaining occupation groups there have been increases. The increase since 1910 is considerable in the proportion engaged in manufacturing and mechanical industries, a result in part of expanding industrial operations as well as of the continued trend of deaf-mutes toward this form of employment. The proportion of deaf-mutes in clerical occupations, though still very small, has more than doubled in this period, an indication possibly that more and more openings for deaf-mutes are appearing in this field. In the case of agriculture and allied industries there has been an actual increase in the proportion for females, and in the case of manufacturing and mechanical industries a relatively considerable increase in the proportion of males; this, in view of a very similar increase since 1910 in the proportion engaged in manufacturing and mechanical industries, is an added indication of the definite transfer of males from the one occupation to the other. Female deaf-mutes show a loss in the proportion in domestic and personal service, but a slight gain in the proportion in public service.

Table 51 shows, for both sexes combined, the number and the percentage distribution of deaf-mutes in the general occupational groups, for the several race and nativity classes, as compared with a similar occupational distribution of the general population. The most important occupations in each of these occupational groups are given, for each sex separately, in Table 98, page 152.

Whites have larger proportions than negroes in all occupations except agriculture, transportation, and domestic and personal service, and also in unclassifiable occupations (which are excluded to facilitate comparison with the general population). In manufacturing and mechanical industries, extraction of minerals, and public service their proportion is relatively twice as great or more, and in professional service and clerical occupations from six to ten times as great. The excess in the proportion for whites is least in trade. The proportion for negroes in domestic and personal service is over three times as great as for whites, and in agriculture practically twice as great. The relative representation of whites and of negroes among deaf-mutes in the several occupational groups corresponds to a large extent with the representation for these two groups in the population as a whole. In the general population, however, the proportion occupied in transportation pursuits is greater for whites than for negroes. In trade the excess in the proportion for whites over that for negroes in the deaf-mute population is much less than in the general population, and in professional service much greater. The reason for the higher proportion of negro deaf-mutes in transportation, apart from the possible effect on the percentage of lower proportions elsewhere, is mainly that the work which they do here is of unskilled manual character, which is largely the case, also, for unclassifiable occupations. The limited representation of negro deaf-mutes in manufacturing and mechanical industries is to be explained in no small measure by their lack of training in pursuits of a skilled or semiskilled nature, and also by their residence largely in the nonindustrial States.

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[27] In the general population gainfully occupied the percentage for both sexes engaged in these industries was 26.3 per cent in 1920, as compared with 33.2 per cent in 1910.

TABLE 51.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY RACE, NATIVITY, AND OCCUPATIONAL GROUPS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

OCCUPATIONAL GROUP	All classes	WHITE			Negro	Other colored
		Total	Native	Foreign-born		
	DEAF-MUTES—NUMBER					
Total	[1] 12,678	12,050	10,751	1,299	578	50
Agriculture, forestry, and animal husbandry	3,016	2,747	2,570	177	242	27
Extraction of minerals	64	63	56	7	1	--------
Manufacturing and mechanical industries	7,269	7,103	6,205	898	154	12
Transportation	143	132	120	12	9	2
Trade	241	233	208	25	7	1
Public service	45	44	40	4	1	--------
Professional service	290	287	267	20	2	1
Domestic and personal service	1,072	926	817	109	141	5
Clerical occupations	235	234	216	18	1	--------
Unclassifiable occupations	303	281	252	29	20	2
	DEAF-MUTES—PER CENT DISTRIBUTION [2]					
Total	100.0	100.0	100.0	100.0	100.0	--------
Agriculture, forestry, and animal husbandry	24.4	23.3	24.5	13.9	43.4	--------
Extraction of minerals	0.5	0.5	0.5	0.6	0.2	--------
Manufacturing and mechanical industries	58.7	60.4	59.1	70.7	27.6	--------
Transportation	1.2	1.1	1.1	0.9	1.6	--------
Trade	1.9	2.0	2.0	2.0	1.3	--------
Public service	0.4	0.4	0.4	0.3	0.2	--------
Professional service	2.3	2.4	2.5	1.6	0.4	--------
Domestic and personal service	8.7	7.9	7.8	8.6	25.3	--------
Clerical occupations	1.9	2.0	2.1	1.4	0.2	--------
	GENERAL POPULATION—PER CENT DISTRIBUTION					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry, and animal husbandry	26.3	23.8	26.9	12.0	45.2	43.9
Extraction of minerals	2.6	2.8	2.2	4.9	1.5	1.1
Manufacturing and mechanical industries	30.8	32.5	28.7	46.9	18.4	13.0
Transportation	7.4	7.5	7.6	7.1	6.5	4.6
Trade	10.2	11.2	11.2	11.1	2.9	7.9
Public service	1.9	2.0	2.0	1.6	1.0	1.2
Professional service	5.2	5.6	6.3	3.0	1.7	1.7
Domestic and personal service	8.2	6.3	5.3	9.9	22.1	25.4
Clerical occupations	7.5	8.4	9.8	3.4	0.8	1.3

[1] Includes those whose age was not reported.
[2] Exclusive of unclassifiable occupations. Per cent not shown where base is less than 100.

As between native and foreign-born white deaf-mutes, the proportion is greater for the former in agriculture, transportation, public service, professional service, and clerical occupations; and greater for the latter in manufacturing and mechanical industries and domestic and personal service. In extraction of minerals and in trade the proportions for the two groups are practically the same. In agriculture the proportion for the native is almost double that for the foreign-born. In greater or less measure the proportions for native and foreign-born deaf-mutes in the several occupational groups follow the proportions for the native and the foreign-born population as a whole. In clerical occupations and professional service natives among deaf-mutes have a much smaller representation than in the general population. The proportions, respectively, of native and foreign-born white deaf-mutes engaged in agriculture, forestry, and animal husbandry are quite similar to those of the general population so engaged; but much larger proportions of native and foreign-born white deaf-mutes are engaged in manufacturing and mechanical industries, and much smaller proportions are engaged in trade and in extraction of minerals.

Divergencies in the proportions for native and foreign-born deaf-mutes from the proportions for natives and the foreign-born in the population at large are for the most part attributable to the range of occupations which are available in different fields for the two deaf-mute groups. Similarly, variations between these two groups in particular occupations, especially the various trades in the manufacturing and mechanical industries, depend in great measure, for each group, upon the opportunities at hand and the extent of vocational training in different areas. So far as the foreign-born may predominate in a given calling, the matter is affected not a little by their more frequent residence in urban centers, with consequently greater opportunities.[28]

In Table 52 are shown the number and the percentage distribution of male and of female deaf-mutes for each specific occupation having in it not less than 0.5 per cent of the total number gainfully occupied, the occupations being listed in the order of their numerical ranking.

Though deaf-mutes, especially males, are engaged in a fairly wide range of occupations, they are found gathered in considerable numbers in certain particular fields. Male deaf-mutes are especially inclined toward the work of semiskilled mechanical operatives in industrial establishments. Almost one-fourth (23.2 per cent) of all in gainful occupations are engaged in various forms of work of this character, a proportion larger than for any single calling. Such labor is especially adapted for deaf-mutes, requiring as it does mainly adroit hands and sharp eyes, without necessarily involving expertness or advanced technical training or specialization. The establishments of this kind, each of which has from 1.8 per cent to 0.6 per cent of the total number of deaf-mute males in gainful occupations, are textile mills, printing and publishing, vehicle (including automobile) and implement factories, blast furnaces and miscellaneous iron and steel factories, shoe factories, sawmills and other similar woodworking mills, clothing industries, furniture, piano, and organ factories, cigar and tobacco factories, food industries, and clay, glass, and stone industries.

The single occupation having the largest representation of male deaf-mutes is farming, with almost one-fifth (19.2 per cent) of those gainfully occupied. This embraces general farming, stock raising, gardening, horticulture, fruit growing, etc. If agricultural labor is added (6.4 per cent), the proportion of male deaf-mutes engaged on the farm becomes slightly over one-fourth (25.6 per cent), making this the foremost occupation numerically. Farming, as already indicated, has been considered a very desirable calling for deaf-mutes, though it has on the whole failed to attract them as might be expected. Semiskilled industrial operatives, farmers, and farm laborers together constitute almost one-half (48.8 per cent) of the whole number of male deaf-mutes gainfully occupied.

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[28] The trade with the greatest difference between the proportions for native and foreign-born deaf-mutes is tailoring, the proportion among males for the latter being five times as great as for the former. (See Table 98, p. 152.)

TABLE 52.—DEAF-MUTES 10 YEARS OF AGE AND OVER, GAINFULLY OCCUPIED, BY SEX AND OCCUPATION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

OCCUPATION	Number	Per cent distribution	OCCUPATION	Number	Per cent distribution
MALES					
Total	10,196	100.0	Semiskilled operatives:		
Specific occupations:			Textile mills	179	1.8
Farmers, etc.[1]	1,958	19.2	Printing and publishing	163	1.6
Printers [2]	507	5.0	Vehicle and implement factories [11]	159	1.6
Carpenters and cabinetmakers	438	4.3	Blast furnaces and miscellaneous iron and steel factories	148	1.5
Shoemakers and cobblers [3]	436	4.3	Shoe factories	144	1.4
Machinists, etc.[4]	229	2.2	Sawmills, etc.[12]	137	1.3
Painters, etc.[5]	228	2.2	Clothing industries	94	0.9
Mechanics (n. o. s.[6])	173	1.7	Furniture, piano, and organ factories	89	0.9
Tailors	173	1.7	Cigar and tobacco factories	78	0.8
Clerks (except in stores) and stenographers	124	1.2	Food industries	72	0.7
Bakers	91	0.9	Clay, glass, and stone industries	61	0.6
Barbers and hairdressers	88	0.9	Laborers:		
Teaching professions [7]	86	0.8	Building, general, and not specified	755	7.4
Janitors and sextons	76	0.7	Agricultural	649	6.4
Waiters and servants [8]	72	0.7	Metal industries	101	1.0
Wholesale and retail dealers [9]	71	0.7	Lumber and furniture industries	58	0.6
Drivers, chauffeurs, etc. [10]	56	0.5	All other occupations	2,503	24.5
FEMALES					
Total	2,482	100.0	Semiskilled operatives:		
Specific occupations:			Clothing industries	115	4.6
Dressmakers and seamstresses [13]	293	11.8	Textile mills (other than cotton)	89	3.6
Farmers, etc.[1]	225	9.1	Cigar and tobacco factories	40	1.6
Waitresses and servants [8]	198	8.0	Printing and publishing	39	1.6
Laundry operatives and laundresses [14]	154	6.2	Shoe factories	34	1.4
Clerks (except in stores) and stenographers	41	1.7	Food industries	26	1.0
Teaching professions [7]	40	1.6	Cotton mills	23	0.9
Cooks	29	1.2	Laborers:		
Tailoresses	21	0.8	Agricultural	113	4.6
Clerks in stores and saleswomen	17	0.7	Building, general, and not specified	27	1.1
Printers [2]	14	0.6	All other occupations	931	37.5
Milliners	13	0.5			

[1] Includes stock raisers, gardeners, florists, fruit growers, etc.
[2] Includes compositors, engravers, lithographers, pressmen, etc.
[3] Exclusive of those in factories.
[4] Includes millwrights and toolmakers.
[5] Includes glaziers, varnishers, enamelers, etc.
[6] Not otherwise specified.
[7] Includes school-teachers, college presidents, and professors.
[8] Other than cooks.
[9] Except hucksters and peddlers.
[10] Includes draymen and teamsters.
[11] Includes automobile, implement, and wagon factories, car shops, shipyards, etc.
[12] Includes planing and other woodworking mills.
[13] Exclusive of those in factories.
[14] Exclusive of those in laundries.

General laborers come next, with a proportion of 7.4 per cent, most of them being common manual laborers, and others doing various odd jobs. Printing in its different processes, demanding more or less extended preparation for its accomplishment, has been one of the leading trades taught in the special schools for the deaf; as a result, 5 per cent of all male deaf-mutes gainfully employed are compositors, engravers, lithographers, pressmen, etc. With the exception of farming, there is a larger proportion in this than in any other specific occupation. If general operatives in printing and publishing establishments are added, the total proportion in the printing trade is 6.6 per cent. Carpentry and cabinet-making and shoemaking and cobbling are two trades to which much attention is likewise given in the mechanical training of deaf-mutes, each having a following of 4.3 per cent.

The proportions are 2.2 per cent each for machinists (including millwrights and toolmakers) and for painters (including glaziers, varnishers, enamelers, etc.), the latter group representing a trade which has been recognized to a large extent in the vocational training of deaf-mutes, and the former also in certain teaching centers. General mechanics and tailors each make up 1.7 per cent of the number of male deaf-mutes gainfully employed, tailoring being another trade quite widely taught. Clerks (not in stores) and stenographers form 1.2 per cent. Laborers in metal industries constitute 1 per cent. The remaining occupations each having at least 0.5 per cent of the total number of male deaf-mutes gainfully employed are bakers (0.9 per cent), barbers and hairdressers (0.9 per cent), teachers and others in the teaching profession (0.8 per cent), janitors and sextons (0.7 per cent), waiters and servants (0.7 per cent), wholesale and retail dealers (0.7 per cent), laborers in lumber and furniture industries (0.6 per cent), and drivers, chauffeurs, etc. (0.5 per cent). In all the occupations just enumerated there are 75.5 per cent of male deaf-mutes.[29]

In a very considerable number of occupations, and covering rather a wide range, in the manufacturing and mechanical industries, male deaf-mutes are found to be profitably engaged, either conducting individual business enterprises or working in regular industrial establishments. In other general fields of employment they are confined to a very limited number of occupations, in most of which their representation is meager. In certain particular callings, however, they have proportions which are by no means small, and which may possess real significance as indicating the opportunities which may be afforded to deaf-mutes.[30]

With female deaf-mutes, as with male, semiskilled operatives are the largest group gainfully occupied, constituting one-fourth (25.2 per cent) of all. Among such operatives, clothing industries and cotton and other textile mills have the largest number, there being 9.1 per cent in all of them combined. In cigar and tobacco factories there are 1.6 per cent, in printing and publishing 1.6 per cent, in shoe factories 1.4 per cent, and in food industries 1 per cent. The most important single occupation reported for female deaf-mutes is that of dressmakers and seamstresses not in factories, comprising almost one-eighth (11.8 per cent) of female deaf-mutes gainfully employed. Farming occupations follow with 9.1 per cent, and if agricultural laborers be included, 13.7 per cent. Waitresses and servants have 8 per cent, and laundry workers 6.2 per cent. Clerks (not in stores) and stenographers constitute 1.7 per cent; teachers, 1.6 per cent; cooks, 1.2 per cent; and general laborers, 1.1 per cent. Still smaller percentages of the total are as follows: Tailoresses, 0.8 per cent; clerks in stores and saleswomen, 0.7 per cent; printers, 0.6 per cent; and milliners, 0.5 per cent. The foregoing occupations, as shown in Table 52, comprise 62.6 per cent of female deaf-mutes gainfully employed.

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[29] For occupations showing less than 0.5 per cent of the total males gainfully occupied, see Table 98, p. 152.

[30] Of male deaf-mutes in manufacturing and mechanical industries, 38.3 per cent are semiskilled operatives in industrial establishments. Of those in transportation, 40.3 per cent are drivers, chauffeurs, draymen, etc. Of those in trade, 35 per cent are wholesale and retail dealers and 17.7 per cent clerks and salesmen. Of those in domestic and personal service, 29.4 per cent are janitors, porters, etc., 25.4 per cent barbers and hairdressers, and 20.7 per cent waiters and servants. Possibly as many as one-sixth of the entire number are in occupations which can best be described as those of general unskilled laborers. Male deaf-mutes gainfully occupied in professional service are as follows: Teachers, 86; architects, chemists, inventors, technical engineers, etc., 45; artists and teachers of art, 17; photographers, 17; clergymen, 11; general literary workers (authors, editors, reporters, and librarians), 9; physicians and others in medical service, 8. Practically all the teachers are engaged in the instruction of deaf-mute children. The clergymen all minister to deaf-mutes. (See Table 98, p. 152.)

Female deaf-mutes are restricted to a considerably narrower range of occupations than male. In some occupations they have no representation and in others very little. Though relatively large proportions are found in certain manufacturing and mechanical industries, the largest numbers appear to be in domestic and personal service, among those callings to which women are particularly accustomed. To some of these callings, especially those involving needlework and other domestic arts, much attention is given at the special schools. With both sexes the trades learned at school, even though by no means always pursued in later years, generally have considerable followings.[31]

Self-support and annual earnings.—In Tables 53 and 54 are given the number and the per cent distribution for 1920, and the per cent distribution for 1910, of male and of female deaf-mutes gainfully occupied, according to ability for self-support and amount of annual earnings.

TABLE 53.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX AND ABILITY FOR SELF-SUPPORT, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

ABILITY FOR SELF-SUPPORT	NUMBER, 1920[1]		PER CENT DISTRIBUTION[2]			
			1920		1910	
	Male	Female	Male	Female	Male	Female
Total	10,196	2,482				
Reporting as to ability for self-support	9,743	2,317	100.0	100.0	100.0	100.0
Self-supporting	8,792	1,778	90.2	76.7	81.7	65.4
Not self-supporting	951	539	9.8	23.3	18.3	34.6
Not reporting as to ability for self-support	453	165				

[1] Includes those whose age was not reported. [2] Based upon the number reporting as to self-support.

That deaf-mutes are largely an economically independent class in the community is made further evident by these tables. Among males nine-tenths (90.2 per cent) are reported as self-supporting. Among females, however, the proportion is only a little over three-fourths (76.7 per cent), a considerable number, as is the case with many females in the general population, having earnings which merely contribute toward support.[32] With both males and females there has been an increase since 1910 in the proportion who are self-supporting. This increase, so far as it has actually existed, is no doubt due in large part to an increased demand for all labor, attendant upon the general industrial expansion of the country, particularly during and in consequence of the World War.

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[31] Of female deaf-mutes in manufacturing and mechanical industries, 26.9 per cent are dressmakers and seamstresses. Possibly close to one-fourth of the entire number occupied are engaged directly or indirectly in the making of clothing. See also discussion in connection with Table 60, p. 90.

[32] The economic condition of deaf-mutes is possibly further set forth in the proportions reported as dependent on earnings for living, which are practically the same as the proportions reported self-supporting. Probably in not a few cases the two inquiries were confused, though it is apparent from the negligible difference between the two sets of figures that very few deaf-mutes can be regarded as dependent on such means as charity for support. (See the earlier report, Deaf-mutes in the United States, 1920, Table 30; see also p. 74.)

Table 54.—Deaf-mutes 10 Years of Age and Over Gainfully Occupied, by Sex and Annual Earnings, for the United States: 1920 and 1910

[Figures include only deaf-mutes returning special schedules]

ANNUAL EARNINGS	NUMBER, 1920 [1]		PER CENT DISTRIBUTION [2]			
			1920		1910	
	Male	Female	Male	Female	Male	Female
Total	10,196	2,482				
Reporting annual earnings from occupation	7,830	1,610	100.0	100.0	100.0	100.0
Reporting annual earnings of—						
Less than $100	214	175	2.7	10.9	9.2	30.4
$100 to $199	302	212	3.9	13.2	13.0	23.4
$200 to $299	337	166	4.3	10.3	11.9	16.5
$300 to $399	408	170	5.2	10.6	12.7	14.7
$400 to $499	311	130	4.0	8.1	11.2	7.7
$500 to $599	439	165	5.6	10.2	11.7	4.0
$600 to $799	706	292	9.0	18.1	16.3	2.0
$800 to $999	948	154	12.1	9.6	7.4	1.0
$1,000 to $1,199	1,291	89	16.5	5.5	3.4	0.1
$1,200 to $1,499	1,117	25	14.3	1.6	1.4	
$1,500 or over	1,757	32	22.4	2.0	1.6	0.1
Not reporting annual earnings from occupation	2,366	872				

[1] Includes those whose age was not reported. [2] Based upon the number reporting as to earnings.

The economic condition of deaf-mutes is more definitely revealed by their actual earning power. The proportions earning the several amounts, shown in Table 54, are probably not greatly different from the proportions of the general population, in the same general lines of employment. Of male deaf-mutes almost two-thirds (65.3 per cent) earn $800 or more a year; over one-half (53.2 per cent) earn $1,000 or more; and over one-fifth (22.4 per cent) earn $1,500 or more. On the other hand, slightly more than one-tenth (10.9 per cent) have annual earnings of less than $300, and one-fifth (20.1 per cent) of less than $500. Median annual earnings are $1,038.73. (Table 58.)

Among female deaf-mutes the showing is not so good. Not quite one-fifth (18.7 per cent) earn $800 or over, while a little over one-third (34.4 per cent) earn under $300. Median earnings are $463.08. Doubtless oftentimes, as with females in general, earnings of female deaf-mutes are to be regarded as but contributing to the general family income.

Possibly the general earnings of deaf-mutes are a little higher than indicated, to the extent that farmers, in some cases, reported only the earnings actually received in cash, without reference to the value of products consumed on the farm. It should be remembered also that the large incomes generally made in the professional callings or by highly paid business executives, are very slightly represented in the amounts reported by deaf-mutes, who are, for the most part, denied the financial rewards possible in such occupations.

In comparison with 1910 the earnings of both male and female deaf-mutes show considerable increases, similar to the increases in wages and salaries of the population as a whole. It is possible that the increase for deaf-mutes has been the greater of the two. The proportions of deaf-mutes having the lower earnings have become much smaller, while the proportions having the higher earnings have become much larger. Median earnings in the case of males have increased from $427.58 in 1910 to $1,038.73 in 1920, and in the case of females, from $183.60 in 1910 to $463.08 in 1920. (See Table 58.)

Table 55 gives the number of male and female deaf-mutes 10 years of age and over, in each of the principal race and nativity groups, classified as to their ability for self-support; Table 56 shows the annual earnings reported. These figures may be more readily understood as analyzed in the two succeeding tables.

TABLE 55.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY RACE, NATIVITY, SEX, AND ABILITY FOR SELF-SUPPORT, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

ABILITY FOR SELF-SUPPORT	WHITE				COLORED	
	Native		Foreign-born			
	Male	Female	Male	Female	Male	Female
Total [1]	8,746	2,005	1,029	270	421	207
Reporting as to ability for self-support	8,330	1,861	1,010	253	403	203
Self-supporting	7,538	1,454	943	199	311	125
Not self-supporting	792	407	67	54	92	78
Not reporting as to ability for self-support	416	144	19	17	18	4

[1] Includes those whose age was not reported.

TABLE 56.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY RACE, NATIVITY, SEX, AND ANNUAL EARNINGS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

ANNUAL EARNINGS	WHITE				COLORED	
	Native		Foreign-born			
	Male	Female	Male	Female	Male	Female
Total [1]	8,746	2,005	1,029	270	421	207
Reporting annual earnings from occupation	6,716	1,308	842	179	272	123
Reporting annual earnings of—						
Less than $100	165	129	8	8	41	38
$100 to $199	251	162	9	17	42	33
$200 to $299	289	137	19	15	29	14
$300 to $399	356	141	24	18	28	11
$400 to $499	265	105	20	18	26	7
$500 to $599	376	140	36	19	27	6
$600 to $799	622	245	67	40	17	7
$800 to $999	810	133	117	19	21	2
$1,000 to $1,199	1,105	69	165	16	21	4
$1,200 to $1,499	942	20	164	5	11	--------
$1,500 or over	1,535	27	213	4	9	1
Not reporting annual earnings from occupation	2,030	697	187	91	149	84

[1] Includes those whose age was not reported.

Table 57 gives the percentage of male and female deaf-mutes 10 years and over who are self-supporting, for each of the three principal race and nativity groups and for each sex separately.

TABLE 57.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED—PERCENTAGE SELF-SUPPORTING, BY RACE, NATIVITY, AND SEX, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

RACE AND NATIVITY	1920		1910	
	Male	Female	Male	Female
All classes [1]	90.2	76.7	81.7	65.4
Native white	90.5	78.1	81.4	66.5
Foreign-born white	93.4	78.7	89.2	78.2
Colored	77.2	61.6	71.0	46.4

[1] Percentages based upon the number reporting as to self-support, including those whose age was not reported.

Among males and females alike foreign-born whites make the best showing, with native whites next, and colored, negroes mostly, last. The respective percentages among males are 93.4, 90.5, and 77.2; and among females, 78.7, 78.1, and 61.6. The relatively low proportions for negroes are due to the generally unskilled character of their labor, with consequent low pay, and to their lack of adequate vocational training. The reason that foreign-born whites lead in respect to their ability for self-support is probably their more frequent residence in urban centers, where earnings are larger than in rural communities, particularly in those trades which are especially suited to deaf-mutes. Earnings for native whites and negroes would probably be higher but for the failure on the part of some engaged in agricultural work to include board and lodging as part of earnings, a large portion of both of these groups being engaged in such form of labor. For all the groups the proportions self-supporting are higher than in 1910, but with the least gains in the case of the foreign-born white.

In Table 58 are shown the median earnings for the three race and nativity groups. Median earnings are highest for foreign-born whites, of either sex, next highest for native whites, and lowest for colored. With males the respective figures are $1,146.67, $1,040.54, and $385.71; and with females, $571.05, $480.95, and $171.21. Since 1910 the gains appear to have been a little less, proportionately, for foreign-born whites than for native whites and negroes.

TABLE 58.—MEDIAN ANNUAL EARNINGS OF GAINFULLY OCCUPIED DEAF-MUTES 10 YEARS OF AGE AND OVER, BY RACE, NATIVITY, AND SEX, FOR THE UNITED STATES: 1920 AND 1910

[Figures include only deaf-mutes returning special schedules]

RACE AND NATIVITY	1920		1910	
	Male	Female	Male	Female
All classes [1]	$1,038.73	$463.08	$427.58	$183.60
Native white	1,040.54	480.95	432.58	198.51
Foreign-born white	1,146.67	571.05	526.76	256.67
Colored	385.71	171.21	157.38	71.15

[1] Includes only deaf-mutes reporting as to annual earnings, including those whose age was not reported.

Table 59 gives the number and per cent of those who are self-supporting and not self-supporting, respectively, among male and female deaf-mutes engaged in each of the general classes of occupations. The percentages are based on the number who definitely reported their status in that respect. Table 60 gives percentages for the specific occupations in which 100 or more persons are engaged.

TABLE 59.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX, ABILITY FOR SELF-SUPPORT, AND OCCUPATIONAL GROUPS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND OCCUPATIONAL GROUP	NUMBER [1]				PER CENT OF TOTAL [2]	
	Total	Self-supporting	Not self-supporting	Not reporting as to self-support	Self-supporting	Not self-supporting
Males	10,196	8,792	951	453	90.2	9.8
Agriculture, forestry, and animal husbandry	2,664	2,143	360	161	85.6	14.4
Extraction of minerals	64	59	3	2	------	------
Manufacturing and mechanical industries	6,180	5,548	436	196	92.7	7.3
Transportation	139	115	19	5	85.8	14.2
Trade	203	177	22	4	88.9	11.1
Public service	41	39	2	------	------	------
Professional service	222	209	9	4	95.9	4.1
Domestic and personal service	347	272	53	22	83.7	16.3
Clerical occupations	182	158	18	6	89.8	10.2
Unclassifiable occupations	154	72	29	53	71.3	28.7
Females	2,482	1,778	539	165	76.7	23.3
Agriculture, forestry, and animal husbandry	352	276	51	25	84.4	15.6
Manufacturing and mechanical industries	1,089	793	250	46	76.0	24.0
Transportation	4	1	3	------	------	------
Trade	38	24	10	4	------	------
Public service	4	4	------	------	------	------
Professional service	68	54	11	3	------	------
Domestic and personal service	725	502	168	55	74.9	25.1
Clerical occupations	53	33	17	3	------	------
Unclassifiable occupations	149	91	29	29	75.8	24.2

[1] Includes those whose age was not reported.

[2] Based upon the number reporting as to ability for self-support. Per cent not shown where base is less than 100.

In manufacturing and mechanical industries generally, as one would expect, male deaf-mutes make the best economic showing. Among these the proportions self-supporting do not vary greatly. Occupations carried on as independent business enterprises and occupations of semiskilled operatives in industrial establishments, most of which require the trades previously taught to a greater or less extent at the special schools for the deaf, have a relatively high ranking. The occupation in which male deaf-mutes appear best off is that of machinists, millwrights, and toolmakers, the proportion self-supporting here being 99.1 per cent. Probably most of the persons so engaged are more or less skilled mechanics, and are paid proportionately good wages. Other occupations with proportions of 95 per cent or more self-supporting, in the order given, are those of mechanics, semiskilled operatives in shoe factories, tailors, semiskilled operatives in textile mills, carpenters and cabinetmakers, semiskilled operatives in vehicle and implement factories, compositors and others in the printing trade, and semiskilled operatives in steel-making processes. Following these with slightly lower proportions are painters and persons in kindred occupations, semiskilled operatives in various woodworking mills and in printing and publishing, and shoemakers and cobblers (not in factories), the last named having a proportion self-supporting of not quite nine-tenths.

TABLE 60.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX, ABILITY FOR SELF-SUPPORT, AND OCCUPATIONS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND OCCUPATION	NUMBER[1]				PER CENT OF TOTAL[2]	
	Total	Self-supporting	Not self-supporting	Not reporting as to self-support	Self-supporting	Not self-supporting
Males	10,196	8,792	951	453	90.2	9.8
Farmers, etc.[3]	1,958	1,664	205	89	89.0	11.0
Laborers, building, general, and not specified	755	588	123	44	82.7	17.3
Laborers, agricultural	649	438	146	65	75.0	25.0
Compositors, engravers, lithographers, pressmen, etc	507	472	23	12	95.4	4.6
Carpenters and cabinetmakers	438	401	19	18	95.5	4.5
Shoemakers and cobblers (not in factories)	436	373	46	17	89.0	11.0
Machinists, millwrights, and toolmakers	229	225	2	2	99.1	0.9
Painters, glaziers, varnishers, enamelers, etc	228	207	13	8	94.1	5.9
Mechanics (not otherwise specified)	173	164	5	4	97.0	3.0
Tailors	173	159	6	8	96.4	3.6
Semiskilled operatives:						
Textile mills	179	169	7	3	96.0	4.0
Printing and publishing	163	146	14	3	91.2	8.8
Vehicle and implement factories[4]	159	150	7	2	95.5	4.5
Blast furnaces and miscellaneous iron and steel factories	148	136	7	5	95.1	4.9
Shoe factories	144	133	5	6	96.4	3.6
Saw, planing, and miscellaneous woodworking mills	137	122	13	2	91.7	8.3
Clerks (except in stores) and stenographers	124	114	8	2	93.4	6.6
All other	3,596	3,131	302	163	91.2	8.8
Females	2,482	1,778	539	165	76.7	23.3
Dressmakers and seamstresses	293	173	104	16	62.5	37.5
Farmers, etc.[3]	225	195	16	14	92.4	7.6
Domestic and personal service:						
Waitresses and servants (other than cooks)	198	143	32	23	81.7	18.3
Laundry operatives and laundresses (not in laundry)	154	93	57	4	62.0	38.0
All other	373	266	79	28	77.1	22.9
Semiskilled operatives:						
Clothing industries	115	88	20	7	81.5	18.5
All other	510	400	92	18	81.3	18.7
Agricultural laborers	113	70	33	10	68.0	32.0
All other	501	350	106	45	76.8	23.2

[1] Includes those whose age was not reported.
[2] Based upon the number reporting as to ability for self-support.
[3] Includes stock raisers, gardeners, florists, fruit growers, etc.
[4] Includes automobile, implement, and wagon factories, car shops, shipyards, etc.

Outside of the mechanical lines the proportions self-supporting are as a rule on a little lower level. An exception exists with respect to professional service (see Table 59), which has a ranking economically with the foremost occupations. The occupation of clerks (not in stores) and stenographers comes next, with a proportion self-supporting of somewhat over nine-tenths. Farming (including stock raisers, gardeners, florists, fruit growers, etc.) and trade have practically the same proportions, or about nine-tenths. Transportation, as a class (see Table 59), has a proportion not quite so high. Domestic and personal service and general labor have proportions of somewhat over four-fifths. Agricultural labor is last, with a proportion of only three-fourths, but, as previously stated, in some of these cases only the actual financial returns may have been reported.[33]

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[33] Occupations in which all so engaged are reported as self-supporting are those of cotton-mill operatives, laborers and clerks in railroad transportation, wholesale and retail dealers, bankers and brokers, technical engineers, clergymen, and photographers—though in all these occupations the numbers are relatively small. (See the earlier report, Deaf-mutes in the United States, 1920, Table 30.)

Female deaf-mutes, on the other hand, apparently fare best as farmers, this occupational group including, however, stock raisers, gardeners, florists, fruit growers, etc. Dressmakers are the most numerous class among the gainfully occupied female deaf-mutes, but they have a relatively low ranking as to self-support. Laundry workers have a slightly lower economic position. Only a little over three-fifths in each of these two groups are self-supporting. In most of the other occupations of females the proportion self-supporting is not far from the average (76.7 per cent).

Table 61 gives figures with respect to annual earnings in the foregoing occupational groups, and Table 62 gives a similar distribution for the most important of the specific occupations reported.

TABLE **61**.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX, ANNUAL EARNINGS, AND OCCUPATIONAL GROUPS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND OCCUPATIONAL GROUP	NUMBER					PER CENT OF TOTAL [1]			
	Total [2]	Less than $500	$500 to $999	$1,000 to $1,499	$1,500 and over	Less than $500	$500 to $999	$1,000 to $1,499	$1,500 and over
Males	10,196	1,572	2,093	2,408	1,757	20.1	26.7	30.8	22.4
Agriculture, forestry, and animal husbandry	2,664	789	395	170	146	52.6	26.3	11.3	9.7
Extraction of minerals	64	9	24	14	7	------	------	------	------
Manufacturing and mechanical industries	6,180	527	1,378	1,921	1,372	10.1	26.5	37.0	26.4
Transportation	139	23	35	35	15	21.3	32.4	32.4	13.9
Trade	203	30	50	46	36	18.5	30.9	28.4	22.2
Public service	41	7	15	12	1	------	------	------	------
Professional service	222	10	48	57	90	4.9	23.4	27.8	43.9
Domestic and personal service	347	90	86	60	31	33.7	32.2	22.5	11.6
Clerical occupations	182	14	32	66	51	8.6	19.6	40.5	31.3
Unclassifiable occupations	154	73	30	27	8	52.9	21.7	19.6	5.8
Females	2,482	853	611	114	32	53.0	38.0	7.1	2.0
Agriculture, forestry, and animal husbandry	352	101	21	10	4	74.3	15.4	7.4	2.9
Manufacturing and mechanical industries	1,089	264	443	74	19	33.0	55.4	9.3	2.4
Transportation	4	1	1	1	------	------	------	------	------
Trade	38	10	15	3	1	------	------	------	------
Public service	4	------	4	------	------	------	------	------	------
Professional service	68	23	21	10	2	------	------	------	------
Domestic and personal service	725	361	58	6	2	84.5	13.6	1.4	0.5
Clerical occupations	53	11	26	2	2	------	------	------	------
Unclassifiable occupations	149	82	22	8	2	71.9	19.3	7.0	1.8

[1] Based upon the number reporting annual earnings. Per cent not shown where base is less than 100.

[2] Includes those whose annual earnings were not reported.

The occupations with the largest earnings correspond in only limited degree with the occupations having the largest proportions self-supporting. Earnings of $1,000 or more a year are received by over four-fifths of machinists, millwrights, and toolmakers, semiskilled operatives in vehicle and implement factories, and printers in general; by a little under three-fourths of clerks (not in stores) and stenographers, persons in professional service, and mechanics; by a little over two-thirds of semiskilled operatives in printing and publishing, carpenters and cabinetmakers, and semiskilled operatives in blast furnaces and steel mills; by a little under two-thirds of painters and kindred workers and tailors; by slightly under three-fifths of semiskilled operatives in saw, planing, and other woodworking mills, shoemakers in factories, and shoemakers and cobblers not in factories; and by a little over one-half of textile mill operatives and persons in trade. At the lower end of the scale are persons in transportation, with somewhat under one-half receiving the above-named sum; persons in domestic and personal service, with slightly over one-third; general laborers, with a little over one-fourth; farmers, with slightly over one-fourth; and agricultural laborers, with only 3.7 per cent. Of the five last-named groups the proportions having annual earnings of under $500 are, respectively, a little under one-fourth, slightly over one-third, slightly under one-third, somewhat under one-half, and slightly over three-fourths. Of printers, machinists, and vehicle and implement factory operatives not far from one-half have earnings of $1,500 or more a year.[34]

With females the highest earnings are received by dressmakers and farmers, and the lowest by waitresses and servants and laundry workers.

TABLE 62.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX AND ANNUAL EARNINGS IN CERTAIN OCCUPATIONS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND OCCUPATION	NUMBER					PER CENT OF TOTAL [1]			
	Total [2]	Less than $500	$500 to $999	$1,000 to $1,499	$1,500 and over	Less than $500	$500 to $999	$1,000 to $1,499	$1,500 and over
Males	10, 196	1, 572	2, 093	2, 408	1, 757	20. 1	26. 7	30. 8	22. 4
Farmers, etc.[3]	1, 958	522	320	151	141	46. 0	28. 2	13. 3	12. 4
Laborers, building, general, and not specified	755	168	238	132	22	30. 0	42. 5	23. 6	3. 9
Laborers, agricultural	649	251	63	9	3	77. 0	19. 3	2. 8	0. 9
Compositors, engravers, lithographers, pressmen, etc	507	18	63	158	215	4. 0	13. 9	34. 8	47. 4
Carpenters and cabinetmakers	438	30	84	123	126	8. 3	23. 1	33. 9	34. 7
Shoemakers and cobblers (not in factory)	436	40	103	120	70	12. 0	30. 9	36. 0	21. 0
Machinists, millwrights, and toolmakers	229	4	25	83	92	2. 0	12. 3	40. 7	45. 1
Painters, glaziers, varnishers, enamelers, etc	228	16	45	63	55	8. 9	25. 1	35. 2	30. 7
Mechanics (not otherwise specified)	173	13	30	51	55	8. 7	20. 1	34. 2	36. 9
Tailors	173	11	46	51	49	7. 0	29. 3	32. 5	31. 2
Semiskilled operatives:									
Textile mills	179	16	57	63	19	10. 3	36. 8	40. 6	12. 3
Printing and publishing	163	9	36	45	56	6. 2	24. 7	30. 8	38. 4
Vehicle and implement factories [4]	159	4	17	58	60	2. 9	12. 2	41. 7	43. 2
Blast furnaces and miscellaneous iron and steel factories	148	7	33	53	35	5. 5	25. 8	41. 4	27. 3
Shoe factories	144	8	43	58	14	6. 5	35. 0	47. 2	11. 4
Saw, planing, and miscellaneous woodworking mills	137	18	34	51	22	14. 4	27. 2	40. 8	17. 6
Clerks (except in stores) and stenographers	124	6	26	55	30	5. 1	22. 2	47. 0	25. 6
All other	3, 596	431	830	1, 084	693	14. 2	27. 3	35. 7	22. 8
Females	2, 482	853	611	114	32	53. 0	38. 0	7. 1	2. 0
Agriculture, forestry, and animal husbandry	352	101	21	10	4	74. 3	15. 4	7. 4	2. 9
Dressmakers	293	93	63	7	2	56. 4	38. 2	4. 2	1. 2
Waitresses and servants (other than cooks)	198	101	11	1	1	88. 6	9. 6	0. 9	0. 9
Laundry operatives and laundresses	154	84	26	1	1	75. 0	23. 2	0. 9	0. 9
All other	1, 485	474	490	95	24	43. 8	45. 2	8. 8	2. 2

[1] Based upon the number reporting annual earnings.
[2] Includes those whose annual earnings were not reported.
[3] Includes farmers, stock raisers, gardeners, florists, fruit growers, etc.
[4] Includes automobile, implement, and wagon factories, car shops, shipyards, etc.

It has been pointed out already that possibly for no other class in the community is education more important and needful than for deaf-mutes. Certainly for no other class can the industrial training provided in connection with schooling have a more intimate relation, so far as future independence and success are concerned, than with deaf-mutes, a condition to which the special schools have generally been fully alive.[35] Even though not a few deaf-mutes fail to follow the particular trades taught at the schools,[36] there is no doubt that the training and practical lessons in industry there acquired prove in future times of decided practical advantage.

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[34] Additional specific occupations with two-thirds or more of persons so engaged receiving not less than $1,000 a year are those of technical engineers, bookkeepers, stonecutters, electricians, stationary firemen, photographers, clergymen, bankers and brokers, real estate and insurance agents, and stationary engineers and cranemen. (See the earlier report, Deaf-mutes in the United States, 1920, Table 30.)

Education and ability for self-support.—In Table 63 are shown, for both sexes together and for each sex separately, the number of deaf-mutes 10 years and over who are gainfully occupied, according to previous school attendance and the character of the schooling involved, together with the percentage which such number constitutes of the total.

TABLE 63.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX AND EDUCATION, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

EDUCATION	TOTAL NUMBER			GAINFULLY OCCUPIED					
				Number			Per cent		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All classes	[1] 31,230	17,176	14,054	12,678	10,196	2,482	40.6	59.4	17.7
Having attended school	28,056	15,585	12,471	11,479	9,335	2,144	40.9	59.9	17.2
Having attended special school for deaf	27,415	15,236	12,179	11,087	9,049	2,038	40.4	59.4	16.7
Having attended other school also	3,848	2,187	1,661	1,715	1,375	340	44.6	62.9	20.5
Having attended no other school	23,567	13,049	10,518	9,372	7,674	1,698	39.8	58.8	16.1
Not having attended special school for the deaf	641	349	292	392	286	106	61.2	81.9	36.3
Not having attended school	2,977	1,478	1,499	1,132	810	322	38.0	54.8	21.5
Not reporting as to education	197	113	84	67	51	16	34.0	45.1	(2)

[1] Includes those whose age was not reported.

[2] Per cent not shown, base being less than 100.

A slightly better record is made for those who have attended school than for those who have not, the proportion for the former being 40.9 per cent and for the latter 38 per cent. The number reporting schooling would be larger but for the fact that some are included in this group whose education has not been completed and who have not as yet entered gainful occupation. For both sexes and for each sex separately the proportion occupied is the highest, though based on small numbers, for those who have attended schools other than the special ones for the deaf, mainly common schools, and next highest for those who have attended such other schools in addition to the special schools. Most of the deaf-mutes who have attended general schools lost their hearing at a comparatively late age, when they had already been in attendance, for some period at least, at a regular school for the hearing; in a few instances, perhaps, this was a school of a technical character, which they attended at an age when some degree of effective speech must generally have been retained, and this has been of assistance to them in their industrial careers. Furthermore, acquaintance and contact, once gained with hearing persons, prove a great help even after their withdrawal. The effects of attendance at regular schools for the hearing seem more pronounced in the case of females than of males, in that more of them proportionately are occupied; while females who have attended special schools are proportionately less numerous in industry than are males. This may be for the reason that female deaf-mutes who attend the special schools are more likely to marry males likewise in attendance, and they are therefore not compelled to enter gainful occupation to as large an extent as other female deaf-mutes.

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[35] The industries taught in American schools for the deaf are: Art, automobile repairing, baking, barbering, basket making, blacksmithing, bookbinding, bookkeeping, bricklaying, broom making, building trades, cabinetmaking, calcimining, carpentry, carpet weaving, chalk engraving, cementing, chair caning, chair making, china painting, clay modeling, cleaning and pressing, cooking, coopery, crocheting, dairying, domestic art, domestic science, drawing, dressmaking, electricity, embroidery, engineering, fancy work, farming, floriculture, gardening, glazing, harness making, house decoration, half-tone engraving, home economics, housework, horticulture, ironing, knife work, knitting, lace making, laundering, leather work, library cataloguing, machine-shop work, manual training, mattress making, mechanical drawing, metal work, millinery, needlework, nursing, painting, paper hanging, photography, plastering, plate engraving, plumbing, pottery, poultry farming, pressing, printing, pyrography, raffia work, rope splicing and whipping, rug weaving, rush seating, saddlery, sewing, shoemaking, shopwork, sign painting, silk weaving, sloyd, stone laying, stencil work, tailoring, tinwork, tray work, typewriting, Venetian iron work, weaving, wood carving, wood engraving, wood turning, woodworking, working in iron, and the use of tools. *American Annals of the Deaf*, January, 1921.

[36] It is estimated that a little more than one-half of deaf-mutes in general follow the trade learned at school. See *American Annals of the Deaf*, March, 1921. Another estimate is 37 per cent. Proceedings of the Tenth Convention, National Association of the Deaf, 1913, pp. 53, 54.

Compared with 1910, there has been no considerable change in the several proportions, except with respect to attendance at other than schools for deaf-mutes. Here the change has been very great. This proportion, the lowest of all in 1910, has become the highest in 1920, nearly doubling in the 10-year period.[37]

A possible explanation of this movement is that an increasing number of deaf-mutes are attending the special classes now being created more and more for them in the public schools, some of which may not be classified as schools for the deaf. Possibly, also, better vocational education is now being provided in the general schools than in the past, with a consequently larger proportion of those who have attended becoming qualified for gainful occupation, despite the onset of deafness to some of them.

In the matter, however, of self-support and earning capacity, the situation is somewhat different with respect to the results of attendance at schools for the deaf and attendance at other schools.

Table 64 shows, for males and for females, according to school attendance, the number and the per cent of employed deaf-mutes 10 years of age and over who are self-supporting, and Table 65 shows the number and the per cent distribution by amount of annual earnings.

TABLE 64.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX, EDUCATION, AND ABILITY FOR SELF-SUPPORT, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND ABILITY FOR SELF-SUPPORT	Total	HAVING ATTENDED SCHOOL				Not having attended school	Not reporting as to education
		Total	Special school for the deaf and other schools	Special school for the deaf only	Other schools only		
	NUMBER [a]						
Males	10,196	9,335	1,375	7,674	286	810	51
Reporting as to ability for self-support	9,743	8,935	1,317	7,345	273	767	41
Self-supporting	8,792	8,136	1,210	6,702	224	620	36
Not self-supporting	951	799	107	643	49	147	5
Not reporting as to ability for self-support	453	400	58	329	13	43	10
Females	2,482	2,144	340	1,698	106	322	16
Reporting as to ability for self-support	2,317	2,000	319	1,581	100	303	14
Self-supporting	1,778	1,568	252	1,247	69	199	11
Not self-supporting	539	432	67	334	31	104	3
Not reporting as to ability for self-support	165	144	21	117	6	19	2

[a] Includes those whose age was not reported.

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[37] For comparative percentages, see Deaf-mutes in the United States, 1910, p. 102.

TABLE 64.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX, EDUCATION, AND ABILITY FOR SELF-SUPPORT, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

SEX AND ABILITY FOR SELF-SUPPORT	Total	HAVING ATTENDED SCHOOL				Not having attended school	Not reporting as to education
		Total	Special school for the deaf and other schools	Special school for the deaf only	Other schools only		
	PER CENT DISTRIBUTION [b]						
Males	100.0	100.0	100.0	100.0	100.0	100.0	-----
Self-supporting	90.2	91.1	91.9	91.2	82.1	80.8	-----
Not self-supporting	9.8	8.9	8.1	8.8	17.9	19.2	-----
Females	100.0	100.0	100.0	100.0	100.0	100.0	-----
Self-supporting	76.7	78.4	79.0	78.9	69.0	65.7	-----
Not self-supporting	23.3	21.6	21.0	21.1	31.0	34.3	-----

[b] Based upon the number reporting as to ability for self-support. Per cent not shown where base is less than 100.

Among males a better showing in the matter of self-support is made for those who have attended school than for those who have not, the proportion for the former being 91.1 per cent and for the latter 80.8 per cent. The results, furthermore, are considerably more favorable in the way of economic independence for those who have had all or a part of their education at the special schools. In this case the proportion self-supporting (82.1 per cent) for those who have confined their education to schools for the hearing, largely to common schools, is almost as low as is the proportion for those who have attended no school at all. The respective percentages for those who have attended schools for the deaf only and for those who have attended other schools also are 91.2 and 91.9.

With respect to the amount of annual earnings, as shown by Table 65, the effects of education are even more manifest. Over four-fifths (81.9 per cent), of the male deaf-mutes with education receive $500 or more a year, while only about one-half of those without it receive this sum. On the other hand, less than one-tenth of the former receive less than $300, while almost one-third of the latter do. The best showing is made by those who have attended both a special school for the deaf and another school, the proportion of these receiving $500 or over being 86.1 per cent and the proportion receiving under $300 being 7.1 per cent. The next best showing is made by those who have only attended schools for the deaf, the respective percentages for these high and low incomes being 82 and 9.5. The most unfavorable showing for those having any education at all is for those whose education has been entirely at the schools for the hearing, the respective percentages for these being 56.9 and 23. This is in spite of the fact that these persons had the highest percentage gainfully occupied. (See Table 63.) Possibly the explanation of this contrast between the extent of entry into gainful occupation and the amount of actual earnings received, for deaf-mutes who have had none of their education in schools for the deaf, may be that these persons have to make an earlier start in their industrial careers, while deaf-mutes who attend the special schools remain, as we have seen, to a comparatively late age. Probably a more important consideration is that the technical training afforded at the special schools, taking into account as it does the peculiar handicaps of deaf-mutes, provides for them in the long run the most desirable and the most advantageous industrial equipment.

TABLE 65.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY SEX, EDUCATION, AND ANNUAL EARNINGS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

SEX AND ANNUAL EARNINGS	Total	HAVING ATTENDED SCHOOL				Not having attended school	Not reporting as to education
		Total	Special school for the deaf and other schools	Special school for the deaf only	Other schools only		
	NUMBER [1]						
Males	10,196	9,335	1,375	7,674	286	810	51
Reporting annual earnings from occupations	7,830	7,293	1,110	5,988	195	506	31
Reporting annual earnings of—							
Less than $100	214	158	18	130	10	56	-----
$100 but less than $300	639	533	61	437	35	105	1
$300 but less than $500	719	629	75	515	39	84	6
$500 but less than $1,000	2,093	1,951	284	1,626	41	132	10
$1,000 or over	4,165	4,022	672	3,280	70	129	14
Not reporting annual earnings from occupations	2,366	2,042	265	1,686	91	304	20
Females	2,482	2,144	340	1,698	106	322	16
Reporting annual earnings from occupations	1,610	1,432	251	1,128	53	170	8
Reporting annual earnings of—							
Less than $100	175	126	17	101	8	48	1
$100 but less than $300	378	317	58	238	21	59	2
$300 but less than $500	300	271	44	213	14	28	1
$500 but less than $1,000	611	583	101	475	7	26	2
$1,000 or over	146	135	31	101	3	9	2
Not reporting annual earnings from occupations	872	712	89	570	53	152	8
	PER CENT DISTRIBUTION [2]						
Males	100.0	100.0	100.0	100.0	100.0	100.0	-----
Reporting annual earnings of—							
Less than $100	2.7	2.2	1.6	2.2	5.1	11.1	-----
$100 but less than $300	8.2	7.3	5.5	7.3	17.9	20.8	-----
$300 but less than $500	9.2	8.6	6.8	8.6	20.0	16.6	-----
$500 but less than $1,000	26.7	26.8	25.6	27.2	21.0	26.1	-----
$1,000 or over	53.2	55.1	60.5	54.8	35.9	25.5	-----
Females	100.0	100.0	100.0	100.0	-------	100.0	-----
Reporting annual earnings of—							
Less than $100	10.9	8.8	6.8	9.0	-------	28.2	-----
$100 but less than $300	23.5	22.1	23.1	21.1	-------	34.7	-----
$300 but less than $500	18.6	18.9	17.5	18.9	-------	16.5	-----
$500 but less than $1,000	38.0	40.7	40.2	42.1	-------	15.3	-----
$1,000 or over	9.1	9.4	12.4	9.0	-------	5.3	-----

[1] Includes those whose age was not reported.

[2] Based upon the number reporting amount of annual earnings. Per cent not shown where base is less than 100.

With females the situation is much the same as with males, in the ranking of the several educational groups in the matter of self-support and amount of earnings. More than one-half of those with education receive $500 or more a year, while only one-fifth of those without it receive this sum. On the other hand, almost two-thirds of the uneducated deaf-mutes receive under $300, while less than one-third of the educated do. The best showing is made by those who have had some attendance at the special schools for the deaf and also other schooling. The proportions are nearly as good when education has been entirely in the special schools. The respective percentages earning $500 or over are 52.6 and 51.1; the corresponding percentages earning under $300 are 29.9 and 30.1.

In Tables 66 and 67 are presented figures which make a similar correlation of the data relating to school attendance, ability as to self-support, and annual earnings, for the several race and nativity classes.

TABLE 66.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY RACE, NATIVITY, EDUCATION, AND ABILITY FOR SELF-SUPPORT, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

RACE, NATIVITY, AND ABILITY FOR SELF-SUPPORT	Total [1]	HAVING ATTENDED SCHOOL				Not having attended school	Not reporting as to education
		Total	Special school for the deaf and other schools	Special school for the deaf only	Other schools only		
	NUMBER						
Native white	10,752	10,062	1,515	8,229	318	644	46
Reporting as to ability for self-support	10,191	9,557	1,439	7,815	303	597	37
Self-supporting	8,992	8,505	1,287	6,977	241	455	32
Not self-supporting	1,199	1,052	152	838	62	142	5
Not reporting as to ability for self-support	561	505	76	414	15	47	9
Foreign-born white	1,300	1,090	156	894	40	197	13
Reporting as to ability for self-support	1,263	1,062	154	869	39	189	12
Self-supporting	1,142	972	144	796	32	160	10
Not self-supporting	121	90	10	73	7	29	2
Not reporting as to ability for self-support	37	28	2	25	1	8	1
Colored	626	327	44	249	34	291	8
Reporting as to ability for self-support	606	316	43	242	31	284	6
Self-supporting	436	227	31	176	20	204	5
Not self-supporting	170	89	12	66	11	80	1
Not reporting as to ability for self-support	20	11	1	7	3	7	2
	PER CENT DISTRIBUTION [2]						
Native white	100.0	100.0	100.0	100.0	100.0	100.0	-----
Self-supporting	88.2	89.0	89.4	89.3	79.5	76.2	-----
Not self-supporting	11.8	11.0	10.6	10.7	20.5	23.8	-----
Foreign-born white	100.0	100.0	100.0	100.0	-------	100.0	-----
Self-supporting	90.4	91.5	93.5	91.6	-------	84.7	-----
Not self-supporting	9.6	8.5	6.5	8.4	-------	15.3	-----
Colored	100.0	100.0	--------	100.0	-------	100.0	-----
Self-supporting	71.9	71.8	--------	72.7	-------	71.8	-----
Not self-supporting	28.1	28.2	--------	27.3	-------	28.2	-----

[1] Includes those whose age was not reported.
[2] Based upon the number reporting as to ability for self-support. Per cent not shown where base is less than 100.

TABLE 67.—DEAF-MUTES 10 YEARS OF AGE AND OVER GAINFULLY OCCUPIED, BY RACE, NATIVITY, EDUCATION, AND ANNUAL EARNINGS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

RACE, NATIVITY, AND ANNUAL EARNINGS	Total [1]	HAVING ATTENDED SCHOOL				Not having attended school	Not reporting as to education
		Total	Special school for the deaf and other schools	Special school for the deaf only	Other schools only		
	NUMBER						
Native white	10,752	10,062	1,515	8,229	318	644	46
Reporting annual earnings from occupation	8,024	7,635	1,200	6,234	201	362	27
Reporting annual earnings of—							
Less than $100	294	235	26	197	12	58	1
$100 but less than $300	839	749	105	604	40	89	1
$300 but less than $500	867	797	109	643	45	63	7
$500 but less than $1,000	2,326	2,240	340	1,858	42	78	8
$1,000 or over	3,698	3,614	620	2,932	62	74	10
Not reporting annual earnings from occupation	2,728	2,427	315	1,995	117	282	19
Foreign-born white	1,300	1,090	156	894	40	197	13
Reporting annual earnings from occupation	1,021	868	131	709	28	144	9
Reporting annual earnings of—							
Less than $100	16	13	3	9	1	3	-----
$100 but less than $300	60	43	2	36	5	15	2
$300 but less than $500	80	59	8	45	6	21	-----
$500 but less than $1,000	298	241	39	197	5	55	2
$1,000 or over	567	512	79	422	11	50	5
Not reporting annual earnings from occupation	279	222	25	185	12	53	4
Colored	626	327	44	249	34	291	8
Reporting annual earnings from occupation	395	222	30	173	19	170	3
Reporting annual earnings of—							
Less than $100	79	36	6	25	5	43	-----
$100 but less than $300	118	58	12	35	11	60	-----
$300 but less than $500	72	44	2	40	2	28	-----
$500 but less than $1,000	80	53	6	46	1	25	2
$1,000 or over	46	31	4	27	-------	14	1
Not reporting annual earnings from occupation	231	105	14	76	15	121	5
	PER CENT DISTRIBUTION [2]						
Native white	100.0	100.0	100.0	100.0	100.0	100.0	-----
Reporting annual earnings of—							
Less than $100	3.7	3.1	2.2	3.2	6.0	16.0	-----
$100 but less than $300	10.5	9.8	8.8	9.7	19.9	24.6	-----
$300 but less than $500	10.8	10.4	9.1	10.3	22.4	17.4	-----
$500 but less than $1,000	29.0	29.3	28.3	29.8	20.9	21.5	-----
$1,000 or over	46.1	47.3	51.7	47.0	30.8	20.4	-----
Foreign-born white	100.0	100.0	100.0	100.0	-------	100.0	-----
Reporting annual earnings of—							
Less than $100	1.6	1.5	2.3	1.3	-------	2.1	-----
$100 but less than $300	5.9	5.0	1.5	5.1	-------	10.4	-----
$300 but less than $500	7.8	6.8	6.1	6.3	-------	14.6	-----
$500 but less than $1,000	29.2	27.8	29.8	27.8	-------	38.2	-----
$1,000 or over	55.5	59.0	60.3	59.5	-------	34.7	-----
Colored	100.0	100.0	--------	100.0	-------	100.0	-----
Reporting annual earnings of—							
Less than $100	20.0	16.2	--------	14.5	-------	25.3	-----
$100 but less than $300	29.9	26.1	--------	20.2	-------	35.3	-----
$300 but less than $500	18.2	19.8	--------	23.1	-------	16.5	-----
$500 but less than $1,000	20.3	23.9	--------	26.6	-------	14.7	-----
$1,000 or over	11.6	14.0	--------	15.6	-------	8.2	-----

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[1] Includes those whose age was not reported.

[2] Based upon the number reporting annual earnings. Per cent not shown where base is less than 100.

For native whites and foreign-born whites the type of schooling apparently shows a direct relation to the proportion of economic independence, with an even better showing for the foreign-born whites; in each case those who had attended a special school for the deaf, together with an unknown amount of other schooling, were in the greatest measure self-supporting. But among colored deaf-mutes education seems to be without any appreciable effect in improving their condition as to self-support, the proportion self-supporting being the same for those with and for those without education. The explanation of the matter probably lies, in large part, in the general inferiority of the vocational education afforded colored children while in attendance at school. The fruits of education, however, are in evidence even with them, in the increased earnings of those who have had some special schooling. Foreign-born whites in general are able to command higher wages, on the whole, than native-born whites, probably because of their more extensive residence in cities, where more remunerative industrial opportunities are at hand.

Deaf-mutes receiving public aid.—A final question with respect to the economic status of deaf-mutes remains to be determined. This has to do with the extent to which they are afforded public aid.

In Table 68 are shown, for both sexes as well as for each sex separately, the number of deaf-mutes in the several geographic divisions and in the different States reported as receiving State or county aid, especially aid of noninstitutional character, as distinguished from private relief. The percentage which the number aided constitutes of the total deaf-mutes returning special schedules in each State is also given.

TABLE 68.—DEAF-MUTES REPORTING RECEIPT OF STATE OR COUNTY AID, BY DIVISIONS AND STATES: 1920

[Figures include only deaf-mutes returning special schedules]

DIVISION AND STATE	TOTAL NUMBER			REPORTING RECEIPT OF STATE OR COUNTY AID					
				Number			Per cent of total[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
UNITED STATES	35,026	19,166	15,860	836	471	365	2.4	2.5	2.3
GEOGRAPHIC DIVISIONS:									
New England	2,655	1,447	1,208	61	34	27	2.3	2.3	2.2
Middle Atlantic	6,952	3,825	3,127	142	83	59	2.0	2.2	1.9
East North Central	8.874	4,936	3,938	238	121	117	2.7	2.5	3.0
West North Central	4,638	2,546	2,092	108	62	46	2.3	2.4	2.2
South Atlantic	4,102	2,230	1,872	113	69	44	2.8	3.1	2.4
East South Central	2,605	1,365	1,240	76	43	33	2.9	3.2	2.7
West South Central	2,680	1,421	1,259	51	32	19	1.9	2.3	1.5
Mountain	924	519	405	22	14	8	2.4	2.7	2.0
Pacific	1,596	877	719	25	13	12	1.6	1.5	1.7
NEW ENGLAND:									
Maine	354	209	145	6	4	2	1.7	1.9	1.4
New Hampshire	131	72	59	10	4	6	7.6	------	------
Vermont	124	59	65	5	4	1	4.0	------	------
Massachusetts	1,377	738	639	26	16	10	1.9	2.2	1.6
Rhode Island	166	83	83	1	------	1	0.6	------	------
Connecticut	503	286	217	13	6	7	2.6	2.1	3.2
MIDDLE ATLANTIC:									
New York	3,379	1,861	1,518	50	25	25	1.5	1.3	1.6
New Jersey	751	432	319	8	8	------	1.1	1.9	------
Pennsylvania	2,822	1,532	1,290	84	50	34	3.0	3.3	2.6
EAST NORTH CENTRAL:									
Ohio	2,161	1,285	876	69	40	29	3.2	3.1	3.3
Indiana	1,266	646	620	40	18	22	3.2	2.8	3.5
Illinois	2,517	1,404	1,113	54	28	26	2.1	2.0	2.3
Michigan	1,536	839	697	41	16	25	2.7	1.9	3.6
Wisconsin	1,394	762	632	34	19	15	2.4	2.5	2.4
WEST NORTH CENTRAL:									
Minnesota	846	470	376	11	9	2	1.3	1.9	0.5
Iowa	856	446	410	11	5	6	1.3	1.1	1.5
Missouri	1,310	726	584	63	37	26	4.8	5.1	4.5
North Dakota	207	98	109	1	------	1	0.5	------	0.9
South Dakota	231	131	100	6	5	1	2.6	3.8	1.0
Nebraska	472	287	185	3	3	------	0.6	1.0	------
Kansas	716	388	328	13	3	10	1.8	0.8	3.0
SOUTH ATLANTIC:									
Delaware	27	14	13	1	1	------	------	------	------
Maryland	524	289	235	13	10	3	2.5	3.5	1.3
District of Columbia	259	152	107	1	1	------	0.4	0.7	------
Virginia	752	385	367	29	16	13	3.9	4.2	3.5
West Virginia	485	261	224	19	13	6	3.9	5.0	2.7
North Carolina	841	482	359	17	11	6	2.0	2.3	1.7
South Carolina	277	140	137	6	3	3	2.2	2.1	2.2
Georgia	675	361	314	24	12	12	3.6	3.3	3.8
Florida	262	146	116	3	2	1	1.1	1.4	0.9
EAST SOUTH CENTRAL:									
Kentucky	949	491	458	27	13	14	2.8	2.6	3.1
Tennessee	765	408	357	28	17	11	3.7	4.2	3.1
Alabama	548	282	266	16	9	7	2.9	3.2	2.6
Mississippi	343	184	159	5	4	1	1.5	2.2	0.6
WEST SOUTH CENTRAL:									
Arkansas	550	286	264	7	4	3	1.3	1.4	1.1
Louisiana	523	274	249	7	5	2	1.3	1.8	0.8
Oklahoma	365	201	164	8	5	3	2.2	2.5	1.8
Texas	1,242	660	582	29	18	11	2.3	2.7	1.9
MOUNTAIN:									
Montana	128	79	49	1	------	1	0.8	------	------
Idaho	102	50	52	2	2	------	2.0	------	------
Wyoming	18	15	3	------	------	------	------	------	------
Colorado	299	170	129	8	6	2	2.7	3.5	1.6
New Mexico	102	52	50	------	------	------	------	------	------
Arizona	62	38	24	------	------	------	------	------	------
Utah	200	108	92	10	5	5	5.0	4.6	------
Nevada	13	7	6	1	1	------	------	------	------
PACIFIC:									
Washington	471	255	216	7	5	2	1.5	2.0	0.9
Oregon	265	142	123	4	2	2	1.5	1.4	1.6
California	860	480	380	14	6	8	1.6	1.3	2.1

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[1] Per cent not shown where base is less than 100.

Only 2.4 per cent, for the entire country, report themselves as in receipt of such aid.[38] Probably some of the 836 deaf-mutes reported as receiving State or county aid are old, or they are suffering from an infirmity in addition to deaf-mutism, and would in any event be recipients of some form of public aid. Possibly a small number of this class are to be found in almshouses and like institutions. It would be necessary, for a complete understanding of the economic status of deaf-mutes, to know what proportion of the general population receives similar public assistance. At any rate, it appears from Table 64 that deaf-mutes, as a class, make little demand upon the community in the way of public expenditures. This is in keeping with what has already been shown with respect to their employment and wage status. Generally, they are well-equipped physically, apart from their particular infirmity, and with full attention given to vocational training while in attendance at school, they are able to attain an economic independence which, on the whole, doubtless compares favorably with that of the general population.

The proportion of deaf-mutes receiving public aid is slightly greater for males than for females, or 2.5 per cent for the former as against 2.3 per cent for the latter, a proportion not greatly different from that between the numbers for the two sexes in the deaf-mute population.

For both sexes combined, the percentages show some variations in different parts of the country. The highest proportions are in the East South Central, South Atlantic, and East North Central divisions, with 2.9 per cent, 2.8 per cent, and 2.7 per cent, respectively. The Mountain division comes next, with 2.4 per cent, followed by the New England and West North Central, each with 2.3 per cent. After these are the Middle Atlantic and West South Central divisions, with 2 per cent and 1.9 per cent, respectively. The Pacific division has the lowest proportion, or 1.6 per cent, which is a little more than one-half of the proportion in the divisions standing first. The relatively high proportions in New England are in large part to be explained by the fact that in New Hampshire and Vermont public aid for deaf-mutes is expressly authorized by law. But for this fact New England would have a very low proportion, possibly the lowest of all. Among individual States the proportion of deaf-mutes receiving aid ranges from 0.4 per cent to 7.6 per cent—variations not readily to be accounted for, except that the States vary in connection with general poor relief procedure. In some of the Western States the proportions are very small, perhaps because comparatively few of the population of any class in these States are recipients of public aid. The low proportion for the District of Columbia is due to the fact that the national institution for the higher education of deaf-mutes is located here, with practically none of its students receiving the public aid under consideration. In all the geographic divisions except the East North Central and Pacific, and in most of the different States, the proportions receiving public aid are greater for males than for females.

In Table 69 are shown figures as to public aid for deaf-mutes, according to race and nativity classes.

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[38] As a matter of fact, because of the frequent misunderstanding of the nature of the question, the proportion is probably overstated.

TABLE 69.—DEAF-MUTES REPORTING RECEIPT OF STATE OR COUNTY AID, BY RACE, NATIVITY, AND SEX, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

RACE AND NATIVITY	TOTAL NUMBER			REPORTING RECEIPT OF STATE OR COUNTY AID					
				Number			Per cent of total		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All classes	35,026	19,166	15,860	836	471	365	2.4	2.5	2.3
White	33,427	18,317	15,110	792	447	345	2.4	2.4	2.3
Native	30,805	16,825	13,980	724	404	320	2.4	2.4	2.3
Foreign-born	2,622	1,492	1,130	68	43	25	2.6	2.9	2.2
Negro	1,487	786	701	41	23	18	2.8	2.9	2.6
Other colored	112	63	49	3	1	2	2.7	(1)	(1)

[1] Per cent not shown, base being less than 100.

Colored deaf-mutes receive public aid to a greater extent than do white, the respective proportions being 2.8 per cent and 2.4 per cent. The proportion for negroes is 2.8 per cent and for other colored 2.7 per cent. Foreign-born whites are recipients to a greater extent than native-born, the respective proportions being 2.6 per cent and 2.4 per cent.

In all groups the proportion is lower for females than for males, especially in the case of foreign-born whites, females among them having a lower proportion than females in any other group. The relatively high proportion for negro deaf-mutes may be due to the generally inferior educational facilities, including vocational facilities, which they have had, this factor, as has been indicated before, being of no small importance in the economic standing of deaf-mutes. The reason for the relatively higher proportion for foreign-born white males is not clear. Possibly the matter may be affected to a certain extent by their more frequent residence in large cities, where public aid is the more available for dependent classes. The relative position of the two white groups is the reverse of what might be expected from their general economic status, for in the proportions for gainful employment, self-support, and amount of earnings given in preceding tables, foreign-born whites ranked first and native whites second; negroes ranked last in these respects.

In Table 70 are given figures for deaf-mutes according to age, both by broad age groupings and by 5-year groupings.

The proportion receiving public aid, very small at the earliest age periods, only 0.3 per cent for those from 1 to 4, increases steadily, though with some fluctuations, through life to its close, reaching, at the period from 75 to 79 (the highest for which percentage figures are given), 9.8 per cent. At 30 there is an appreciable rise, indicating that in the economic struggle of life some persons are falling by the way. There is another rise at 60, with the oncoming of old age.

The proportion for deaf-mutes in childhood and youth, or under 20 years of age (0.6 per cent), is less than one-fourth of the proportion for those in early adult life, or from 20 to 44 (2.7 per cent). For those in late middle life, or from 45 to 64, the proportion (4.3 per cent) is a little less than double that for the next preceding period; and for those in old age, or 65 and over, the proportion (8.4 per cent) is almost double that for the next preceding period. All these results are doubtless what would be found for the general population, and hardly indicate exceptional conditions for deaf-mutes.

TABLE 70.—DEAF-MUTES REPORTING RECEIPT OF STATE OR COUNTY AID, BY AGE AND SEX, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

AGE	TOTAL NUMBER			REPORTING RECEIPT OF STATE OR COUNTY AID					
				Number			Per cent of total [1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All ages	35,026	19,166	15,860	836	471	365	2.4	2.5	2.3
Under 20 years	13,900	7,390	6,510	85	48	37	0.6	0.6	0.6
Under 1 year	4	3	1	------	------	------	------	------	------
1 to 4 years	296	155	141	1	1	------	0.3	0.6	------
5 to 9 years	3,496	1,832	1,664	16	8	8	0.5	0.4	0.5
10 to 14 years	5,319	2,870	2,449	27	17	10	0.5	0.6	0.4
15 to 19 years	4,785	2,530	2,255	41	22	19	0.9	0.9	0.8
20 to 44 years	13,040	7,292	5,748	353	194	159	2.7	2.7	2.8
20 to 24 years	3,114	1,741	1,373	56	33	23	1.8	1.9	1.7
25 to 29 years	2,823	1,589	1,234	53	31	22	1.9	2.0	1.8
30 to 34 years	2,720	1,530	1,190	86	44	42	3.2	2.9	3.5
35 to 39 years	2,483	1,414	1,069	76	46	30	3.1	3.3	2.8
40 to 44 years	1,900	1,018	882	82	40	42	4.3	3.9	4.8
45 to 64 years	6,337	3,571	2,766	270	149	121	4.3	4.2	4.4
45 to 49 years	2,090	1,175	915	96	53	43	4.6	4.5	4.7
50 to 54 years	1,833	1,051	782	63	37	26	3.4	3.5	3.3
55 to 59 years	1,406	801	605	54	28	26	3.8	3.5	4.3
60 to 64 years	1,008	544	464	57	31	26	5.7	5.7	5.6
65 years and over	1,384	735	649	116	76	40	8.4	10.3	6.2
65 to 69 years	613	334	279	46	32	14	7.5	9.6	5.0
70 to 74 years	409	225	184	33	21	12	8.1	9.3	6.5
75 to 79 years	215	114	101	21	14	7	9.8	12.3	6.9
80 to 84 years	91	44	47	10	5	5	------	------	------
85 years and over	56	18	38	6	4	2	------	------	------
Age not reported	365	178	187	12	4	8	3.3	2.2	4.3

[1] Per cent not shown where base is less than 100.

The proportions for males and females, though on the whole of similar trend, show some divergencies at different age periods. At certain periods, especially in middle life, the proportions for females exceed those for males. Such is the case in adult life generally, with the exception of old age. This circumstance may be due in some instances to a state of widowhood, which requires special assistance. The considerable excess of the proportion for males over that for females in old age is probably nothing more than the reflection of conditions among the aged generally, females being more likely to be cared for by relatives or friends, thus requiring public aid in less degree.

CAUSES OF DEAFNESS

Whatever may have been discovered, in the preceding sections of this report, as to the condition of deaf-mutes in the United States, foremost attention in any study of the subject of deaf-mutism should be given to the question whether this class is to be regarded as a permanent element of the population, or whether it may be possible to prevent deaf-mutism or, at least for the present, appreciably to reduce it. In other words, the main consideration should be directed to the factors responsible for deafness. Upon knowledge of its causation must depend measures to be used in any campaign for the elimination or diminution of deaf-mutism in the country.

Possibly the ear is more liable than any other part of the body to suffer permanent effects of disease in the human system, especially intracranial diseases, or diseases confined mainly to the head. The organ of hearing, both because of its situation and because of its structure, is peculiarly at the mercy of zymotic (i. e., infectious or contagious) diseases which find their way to it in some manner or by some process—the danger being aggravated when the diseases are exanthematic or eruptive in their character, the very diseases which are the main causes of deafness. For the ravages of such affections the ear presents exceptionally receptive soil. Moreover, the auditory organs, securely hidden away in the head as they are, entrenched within the protecting temporal bone of a constitution at once most delicate and complicated, are frequently beyond medical or surgical reach, in the event of some lesion.

Unlike conditions affecting the eye, loss or impairment of hearing is seldom caused by any specific disorder affecting the ear alone, or a disorder confined to that organ. The ear is rarely the primary seat of the trouble responsible for the destruction of hearing. Affections leading to that result are almost always general affections, the ear being merely one of the parts involved. In such cases it is often the center of the most malignant attack, though the deafness left behind is the most serious and frequently the only serious permanent effect, when the disease has in other respects abated.

The ear is composed of three parts—the external ear, the middle ear, and the internal ear. The external ear embraces the auricle and the external meatus or opening, extending within the head as far as the tympanic membrane or drum. The middle ear is made up of the tympanic cavity and its contents, including the tympanic membrane, auditory ossicles (bones of the ear), and the opening toward the nasopharyngeal region. The internal ear, extending from the auditory ossicles inward, comes within rather close proximity to the brain. It consists principally of a labyrinth, partly of membranous structure and partly of bony structure, from which the auditory nerve leads to the brain. Its most important part is where the fiber of this nerve terminates in the membranous labyrinth, a complicated system of sacs and tubes, filled with a fluid substance and lodged in a bony cavity, or the bony labyrinth, holding a somewhat similar fluid. To a certain extent the internal ear may be said to be a complicated nervous extension from the brain, composed of a narrow bony opening spread over a series of membranous canals and partitions.

Infectious or contagious diseases entering the spaces of the auditory system find there inviting conditions for their operations, and with little delay set about their devastating work. If these diseases are also exanthematic, as already pointed out, their destructive power becomes all the more pronounced. Very rarely does deafness result from any morbid state of the external ear. The middle ear and the internal ear are especially subject to attack, and it is here that the damage is mainly done. When the middle ear is involved, there may be produced a suppurative condition of the ear.

Harmful consequences are possible to one or more of the several elements that make up the mechanism of hearing—bone, membrane, tissue, blood, muscle, nerve, or some other delicate or intricate appurtenance. By some process there is effected a hampering of the activities of the ear, extending, it may be, to complete cessation of its functioning, resulting in destruction of the hearing, or total deafness.

In addition to deafness induced by disease, there may be, though relatively but seldom, deafness occasioned by accident, especially from a blow on the head which may result in the perforation of or other injury to the tympanic membrane or in injury to other part of the middle ear, or in concussion of some part of the internal ear involving lesion of the auditory nerve. In exceptional cases injury follows the entry of some foreign substance into the ear. Furthermore, there may be malformation of some part of the ear, possibly existing from birth.

Finally, there is to be reckoned with congenital deafness, or that manifesting itself from birth, a form of deafness our knowledge of which is limited. A considerable part of this is of hereditary origin, and the exact causation of it remains as yet largely wrapped in mystery.[39] A portion of congenital deafness is due to malformation or arrest of development of some part of the auditory system. Occasionally such deafness is the result of antenatal conditions.

Entirely trustworthy statistics as to the causes of deafness are not easily to be obtained. When the hearing apparatus in a given case fails to perform its proper functions, the defects or abnormalities involved may often be revealed only by skilled medical attention. In the absence of such an examination at the proper time—an examination which is relatively infrequent—the nature of the disorder responsible for deafness may not readily be known. As a result, only conjectures may be possible, though these sometimes represent fair general approximations. Particularly when the cause of deafness is reported as congenital, or when the deafness is reported as having been existent from the time of birth, the difficulties in the correct determination of the cause are increased, and for the most part there is considerable doubt as to the actual nature of the aural pathology involved. Even with the best medical diagnosis in congenital cases, it would be difficult to ascertain definitely the conditions accountable for the absence of the sense of hearing, especially when the seat of the trouble is in the internal ear.

However, as the census inquiries as to the cause of deafness have in large part been directed to the part of the ear concerned, and as the number of causes producing acquired deafness is limited, most of them being fairly easily recognized, the statistics obtained afford, if not a precise and absolute statement of all the contributing causes, at least a helpful indication of the proportionate amount of deafness from the chief causes. Some causes which remain beyond any definite determination, including congenital deafness, are tabulated as unclassifiable.

Part of ear affected.—In Table 71 are shown, for deaf-mutes returning special schedules, the number and the per cent distribution by reported causes of deafness, classified according to the part of ear affected.[40]

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[39] Deafness of hereditary origin appearing after early childhood would not necessarily involve deaf-mutism (p. 8).

[40] It is to be remembered that the figures here presented relate only to causes of such deafness as results in "deaf-mutism." They have no reference to the causes of other forms of deafness, including partial deafness or varying degrees of hardness of hearing.

TABLE 71.—DEAF-MUTES, BY REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	Number	Per cent distribution[1]
All causes	35,026	100.0
Causes affecting the external ear	132	0.4
Burns and scalds	51	0.2
Eczema	32	0.1
Impacted cerumen, water or foreign bodies in the ear	22	0.1
All other	27	0.1
Causes affecting the middle ear	8,290	25.5
Causes producing suppurative condition	6,682	20.5
Scarlet fever	3,346	10.3
Measles	1,083	3.3
Disease of the ear	464	1.4
Abscess in the head	446	1.4
Diphtheria	319	1.0
Pneumonia	295	0.9
Influenza (grippe)	151	0.5
Teething	88	0.3
Tonsillitis	40	0.1
Bronchitis	27	0.1
Smallpox	33	0.1
Erysipelas	27	0.1
All other	140	0.4
Combination of diseases	223	0.7
Causes not producing suppurative condition	1,589	4.9
Whooping cough	636	2.0
Catarrh	273	0.8
Colds	263	0.8
Scrofula	92	0.3
Disease of the throat	40	0.1
All other	285	0.9
All other causes affecting the middle ear	19	0.1
Causes affecting the internal ear	6,429	19.8
Causes affecting the labyrinth	372	1.1
Malarial fever and quinine	162	0.5
Mumps	159	0.5
Noise and concussion	35	0.1
Syphilis (including locomotor ataxia)	16	(2)
Causes affecting the internal ear—Continued.		
Causes affecting the auditory nerve	5,976	18.4
Meningitis	3,237	9.9
Brain fever	1,314	4.0
Typhoid fever	642	2.0
Paralysis or infantile paralysis	236	0.7
Convulsions	230	0.7
Congestion of the brain	35	0.1
Sunstroke	28	0.1
Disease of the nervous system	240	0.7
All other	14	(2)
Causes affecting the brain center for hearing	35	0.1
Hydrocephalus	22	0.1
Epilepsy	13	(2)
All other causes affecting the internal ear	46	0.1
Combination of different classes of causes	268	0.8
Unclassifiable causes	17,418	53.5
Congenital	13,513	41.5
Sickness	1,453	4.5
Falls and blows	1,177	3.6
Fever	509	1.6
Accident	162	0.5
Earache	158	0.5
Medicine	42	0.1
Diarrhea and cholera infantum	57	0.2
Fright, shock, excitement	67	0.2
Operation	63	0.2
Abscesses, boils, etc., not in ear	24	0.1
Hereditary causes	16	(2)
All other	177	0.5
Cause unknown or not reported	2,489	------

[1] Based upon the number for whom the cause was reported. Of the total number of cases, the cause is unknown or unreported in 7.1 per cent.

[2] Less than one-tenth of 1 per cent.

Included in the total shown in the table is congenital deafness, which alone constitutes almost two-fifths (38.6 per cent) of all deafness. If only causes of adventitious or acquired deafness were considered, the percentage for each individual cause would be correspondingly increased. This distribution is made in Table 72 for the most important causes.

Of the known causes of deafness, after congenital deafness, those which affect the middle ear are the most numerous, embracing one-fourth (25.5 per cent) of all. Affections which involve the internal ear are responsible for one-fifth (19.8 per cent). Affections which involve the external ear are insignificant (0.4 per cent). Unclassifiable causes, including congenital deafness, account for a little over one-half (53.5 per cent) or, with the exclusion of congenital deafness, for practically one-eighth (12 per cent). Of all definitely reported causes of deafness (exclusive of unknown and unclassifiable causes), a little over one-half is attributable to middle ear disorders, and a little under one-half to internal ear disorders.

Of causes affecting the middle ear four-fifths (equivalent to 20.5 per cent of all causes) are disorders producing a suppurative condition in the ear. Of deafness of this nature one-half (10.3 per cent of all) is chargeable to scarlet fever alone. About one-sixth (3.3 per cent of all) is attributed to measles, though the proportion is doubtless larger, this disease sometimes showing its effects a considerable time after its recognized operations have ceased. The remaining causes reported as from suppurative conditions are as follows: "Disease of the ear," without further specification (1.4 per cent); abscess in the head, often the result of some particular infectious or contagious disease, and sometimes associated with a brain disorder (1.4 per cent); diphtheria (1 per cent); pneumonia (0.9 per cent); influenza, including grippe (0.5 per cent); and teething (0.3 per cent); smaller proportions are ascribed to miscellaneous affections, including tonsillitis, bronchitis, smallpox, and erysipelas (0.1 per cent for each).

Of deafness caused by diseases of the middle ear, without suppurative conditions (representing 4.9 per cent of all causes), two-fifths (2 per cent) is laid to whooping cough. Almost as much is charged to catarrh and colds together (0.8 per cent for each). Of the remaining causes under this head, the chief ones are scrofula (0.3 per cent) and "disease of the throat" (0.1 per cent).

Of deafness in which the internal ear is concerned, a little more than one-twentieth (1.1 per cent of all) is to be charged to disorders affecting the labyrinth, principally malarial fever and quinine, and mumps (0.5 per cent for each). A very small proportion is assigned to noise and concussion (0.1 per cent) and to syphilis (including locomotor ataxia).

Over nine-tenths of the deafness of the internal ear (equivalent to 18.4 per cent of all reported causes) relates to the auditory nerve. Of such, over one-half (9.9 per cent) is chargeable to meningitis (largely cerebrospinal fever), and nearly one-fourth to brain fever (4 per cent), an allied if not often identical disorder; if these two be combined they constitute nearly five-sixths of the causes affecting the auditory nerve. The remaining affections of the auditory nerve are typhoid fever (2 per cent), paralysis, including infantile paralysis (0.7 per cent), convulsions (0.7 per cent), and "disease of the nervous system" (0.7 per cent), with trivial proportions for congestion of the brain and sunstroke (0.1 per cent for each).

Causes reported as affecting the brain center for hearing are negligible (0.1 per cent of all), divided between hydrocephalus and epilepsy.

The small proportion of causes in which the external ear is involved is made up mainly of burns and scalds (0.2 per cent), or of eczema, impacted cerumen (ear wax), water, or foreign bodies in the ear (0.1 per cent for each).

Among the sundry unclassifiable causes of deafness, apart from congenital deafness—which, as already indicated, is itself chargeable with almost four-fifths of deafness of this character—about one-half is attributed to sickness (4.5 per cent of all) and to fever (1.6 per cent), both probably embracing a variety of complaints, some of which might be ascribable to certain of the diseases already mentioned. Somewhat smaller numbers are tabulated under falls and blows (3.6 per cent) and under accidents (0.5 per cent), though it is very likely that some of the deafness reported as due to these causes should properly be charged to the account of some morbid or abnormal condition of the ear the exact nature of which is not recognized. The balance of unclassifiable causes are of miscellaneous character, some purporting to be a form of sickness, and some purporting to be a form of accident—earache (0.5 per cent); diarrhea and cholera infantum (0.2 per cent); abscesses, boils, etc., not in ear (0.1 per cent); operation (0.2 per cent); medicine (0.1 per cent); fright, shock, excitement (0.2 per cent); hereditary causes, less than one-tenth of 1 per cent. A small amount of deafness (0.8 per cent) is due to a combination of causes.

Comparison between sexes.—Table 72 shows the number and the per cent distribution, by cause (exclusive of congenital deafness), for both sexes and for each sex separately for 1920, together with the ratio of males to females for each cause in 1920 and 1910.

TABLE 72.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, CLASSIFIED BY SEX AND REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	NUMBER [1]			PER CENT DISTRIBUTION [2]			MALES PER 100 FEMALES [3]	
	Both sexes	Male	Female	Both sexes	Male	Female	1920	1910
All causes	21,513	11,884	9,629	100.0	100.0	100.0	120.8	126.0
Causes affecting the external ear	132	73	59	0.7	0.7	0.7	------	------
Causes affecting the middle ear	8,290	4,374	3,916	43.6	41.3	46.5	111.7	107.1
Causes producing suppurative condition	6,682	3,567	3,115	35.1	33.7	37.0	114.5	108.0
Scarlet fever	3,346	1,809	1,537	17.6	17.1	18.2	117.7	111.5
Measles	1,083	552	531	5.7	5.2	6.3	104.0	99.6
Disease of the ear	464	249	215	2.4	2.3	2.6	115.8	100.8
Abscess in the head	446	226	220	2.3	2.1	2.6	102.7	110.2
Diphtheria	319	166	153	1.7	1.6	1.8	108.5	------
Pneumonia	295	172	123	1.6	1.6	1.5	139.8	------
Influenza (grippe)	151	80	71	0.8	0.8	0.8	------	------
All other	578	313	265	3.0	3.0	3.1	118.1	97.6
Causes not producing suppurative condition	1,589	796	793	8.4	7.5	9.4	100.4	101.8
Whooping cough	636	298	338	3.3	2.8	4.0	88.2	91.7
Catarrh	273	143	130	1.4	1.3	1.5	110.0	------
Colds	263	141	122	1.4	1.3	1.4	115.6	------
All other	417	214	203	2.2	2.0	2.4	105.4	------
All other causes affecting the middle ear	19	11	8	0.1	0.1	0.1	------	------
Causes affecting the internal ear	6,429	3,815	2,614	33.8	36.0	31.0	145.9	153.0
Causes affecting the labyrinth	372	214	158	2.0	2.0	1.9	135.4	------
Malarial fever and quinine	162	90	72	0.9	0.8	0.9	------	------
Mumps	159	100	59	0.8	0.9	0.7	------	------
All other	51	24	27	0.3	0.2	0.3	------	------
Causes affecting the auditory nerve	5,976	3,551	2,425	31.4	33.5	28.8	146.4	151.6
Meningitis	3,237	1,913	1,324	17.0	18.0	15.7	144.5	144.2
Brain fever	1,314	848	466	6.9	8.0	5.5	182.0	170.3
Typhoid fever	642	365	277	3.4	3.4	3.3	131.8	140.0
Paralysis or infantile paralysis	236	120	116	1.2	1.1	1.4	103.4	------
Convulsions	230	119	111	1.2	1.1	1.3	107.2	------
All other	317	186	131	1.7	1.8	1.6	142.0	------
All other causes affecting the internal ear	81	50	31	0.4	0.5	0.4	------	------
Combination of different classes of causes	268	166	102	1.4	1.6	1.2	162.7	------
Unclassifiable causes	3,905	2,171	1,734	20.5	20.5	20.6	125.2	130.6
Sickness or fever	1,962	1,085	877	10.3	10.2	10.4	123.7	------
Falls and blows	1,177	662	515	6.2	6.2	6.1	128.5	124.9
Accident	162	98	64	0.9	0.9	0.8	------	------
Earache	158	81	77	0.8	0.8	0.9	------	------
All other	446	245	201	2.3	2.3	2.4	121.9	130.8
Cause unknown or not reported	2,489	1,285	1,204	------	------	------	106.7	120.4

[1] Includes those for whom the age when hearing was lost was not reported.
[2] Based upon the number reporting the cause of deafness.
[3] Ratio not shown where number of females is less than 100.

Among the particular causes of acquired deafness, first place is occupied by scarlet fever, with a proportion of a little over one-sixth (17.6 per cent). A close second is meningitis; if brain fever is included, this disease assumes priority, with a proportion of practically one-fourth. It is probable that fully one-half of all deafness reported as of definite causation is chargeable to scarlet fever and meningitis (with brain fever), including some percentage of cases inaccurately described or tabulated under unclassifiable causes. The disease next in rank, but much lower than the two just mentioned, is measles (5.7 per cent). It is followed in order by typhoid fever, whooping cough, disease of the ear, and abscess in the head, each of which is responsible for more than 2 per cent of all acquired deafness. Together the eight disorders enumerated are answerable for almost three-fifths (58.6 per cent) of all definitely reported deafness. With diphtheria, pneumonia, catarrh, colds, paralysis, convulsions, malarial fever and quinine, influenza, and mumps, there is accounted for a little over two-thirds (69.6 per cent). The remainder may be charged to other disorders, or to a combination of different disorders.

Nearly all acquired deafness is due to diseases, almost all of these diseases being of infectious or contagious character. Some of the most important of these diseases responsible for deafness are also exanthematic (eruptive) in character, possibly as much as two-thirds of acquired deafness being due to affections of this kind.

When the proportions for the two sexes are contrasted, certain differences appear among the causes of deafness. For females there is a larger proportion in the case of causes affecting the middle ear, or 46.5 per cent of all causes, as against 41.3 per cent for males. This is also true of all the specific disorders involving this part, except pneumonia and influenza, where the respective proportions for the two sexes are practically equal. With scarlet fever, whooping cough, and measles the greatest differences exist. In the case of causes affecting the internal ear, on the other hand, males show the larger proportion, or 36 per cent as against 31 per cent—a condition true as well with respect to specific disorders except malarial fever and quinine, paralysis, and convulsions, the differences here being slight. Brain fever shows the greatest excess for males. Among unclassifiable causes no noteworthy differences are found.

The larger incidence of deafness for one sex from certain diseases is only to a limited extent in accord with the greater incidence of mortality from such diseases for that sex in the early years of life, the period when the causes of deafness (involving deaf-mutism) for the most part operate. The two tendencies are the same with respect to meningitis (with brain fever), typhoid fever, whooping cough, and pneumonia; the two tendencies are in opposition with respect to scarlet fever, measles, disease of the ear, diphtheria, influenza, malarial fever, paralysis, and convulsions. The different effects upon males and upon females of diseases causing deafness may in some measure be due to a greater innate ability on the part of one sex or the other to withstand some diseases in the early years of life; in some measure the differences result from the more powerful hold which some diseases are able to secure upon one sex or the other, a hold so powerful that life itself is destroyed, with consequently a smaller number of that sex remaining alive. It is to be remembered at the same time that some diseases responsible for deafness rarely if ever cause death.

The changes in the proportions for the different affections causing deafness do not bear a close correspondence in general with the changes in the mortality rates for these affections at the two periods, there being for the most part a decline in the latter rates. If, however, the figures showing the occurrence of deafness from different diseases had reference to the number of persons at the two periods upon whom deafness might have fallen, or to morbidity rates, there would probably have been a considerable resemblance between the two kinds of rates.

The increases in the proportion of deafness for certain diseases are apparent only, being simply reflections of decreases for other diseases, though it is possible that increases for a few diseases have to some extent been due to the local outbreak of epidemics of those diseases. In any event, it is clear that medical science has been making distinct progress in this period as to some very important causes of deafness.

It would be most desirable to have full and reliable statistics showing the movement of the various affections producing deafness over a period sufficiently long for substantial comparative purposes. Census returns, however, do not include such statistics earlier than 1880, and in that year they are confined to a few diseases only, so that any extended comparisons are impossible.

Comparison with earlier censuses.—In Table 73 are shown the number of cases of acquired deafness from four of the most important causes, with the percentage distribution, from 1880 to 1920.

TABLE 73.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, CLASSIFIED BY REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1880 TO 1920

CAUSE OF DEAFNESS	NUMBER					PER CENT DISTRIBUTION				
	1920 [1]	1910 [1]	1900 [2]	1890 [3]	1880 [4]	1920	1910	1900	1890	1880
Total	21, 513	11, 620	17, 932	23, 696	10, 187	100. 0	100. 0	100. 0	100. 0	100. 0
Scarlet fever	3, 346	2, 005	3, 561	4, 799	2, 695	15. 6	17. 3	19. 9	20. 3	26. 5
Meningitis	3, 237	1, 812	2, 524	3, 278	2, 856	15. 0	15. 6	14. 1	13. 8	28. 0
Measles	1, 083	525	932	1, 021	448	5. 0	4. 5	5. 2	4. 3	4. 4
Diphtheria	319	166	(5)	222	70	1. 5	1. 4	(5)	0. 9	0. 7
All other and unknown	13, 528	7, 112	10, 915	14, 376	4, 118	62. 9	61. 2	60. 9	60. 7	40. 4

[1] Deaf-mute population for whom special schedules were returned. Figures include those for whom the age when hearing was lost was not reported.

[2] Deaf population for whom special schedules were returned less than 5 years of age when hearing was lost.

[3] Deaf persons unable to speak at all. Figures include those for whom the age when hearing was lost was not reported.

[4] Deaf-mutes, exclusive of those reported as 16 years of age or over when hearing was lost, who reported cause of deafness. While the report for 1880 does not state specifically that the figures relate only to persons whose deafness was acquired, the number of congenital deaf-mutes, if any, who were included is probably too small to have any material influence upon the percentages.

[5] Separate figures for diphtheria not available.

In the percentage of deafness from scarlet fever there has been a steady and appreciable decline. As this disease is responsible for a very considerable part of all deafness, the progress being made by medical science in conquering it is very gratifying. In the case of meningitis there has been a decrease from 1880 to 1890, an increase from 1890 to 1910, and a slight decrease between 1910 and 1920. On the whole, it is probable that no material headway is being made in subduing this disease, so far at least as its effects upon deafness are concerned. It remains a dread disease in its destruction of the human hearing, and has in general baffled all efforts to control it. Measles and diphtheria show a certain upward trend, especially diphtheria, as do the remaining causes of deafness grouped together—a movement which to some extent is the reflection of the decrease for some diseases, especially scarlet fever. The increases for diphtheria and measles are no doubt in part due to fuller reporting for these diseases in the later years. There can be little question that deafness from most general diseases is decreasing, as a result alike of increased medical knowledge of morbid conditions of the ear and of more skilled treatment of those conditions.

There has been a material decline in the mortality rates for most of those diseases which are responsible for deafness. In the registration area of the

United States, as constituted in each year, the number of deaths per 100,000 of population in 1900, 1910, and 1920, respectively, for the most important diseases of this character was as follows: Scarlet fever, 10.2, 11.6, and 4.6; meningitis, including cerebrospinal fever, 40.9, 14.2, and 6; measles, 12.5, 12.3, and 8.8; typhoid fever, 35.9, 23.5, and 7.8; whooping cough, 12.1, 11.4, and 12.5; diphtheria and croup, 43.3, 21.4, and 15.3; pneumonia (all forms), 180.5, 147.7, and 137.3; paralysis, 25.9, 14.4, and 6.7; convulsions, 32.6, 9.3, and 2.7; malaria, 7.9, 2.2, and 3.6; and influenza, 22.9, 14.4, and 11.5 (1921). Just how far the reduction in the rate for deafness is keeping pace with the reduction in the mortality rate for the different diseases, we can not fully say.[41]

Geographic divisions.—Table 74 gives for each geographic division the percentage distribution for the principal causes of acquired deafness in 1920 and 1910. The table also shows the actual numbers of cases reported under each cause for 1920 only. Table 99 (p. 155) gives for each State the number of deaf-mutes reporting each of the various causes of deafness, these causes being grouped according to the part of the ear affected.

TABLE 74.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, BY PRINCIPAL CAUSES OF DEAFNESS, BY GEOGRAPHIC DIVISIONS: 1920

[Figures include only deaf-mutes returning special schedules]

PRINCIPAL CAUSE OF DEAFNESS	United States	GEOGRAPHIC DIVISIONS								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
	NUMBER									
Total[a]	19, 024	1, 482	3, 908	5, 316	2, 862	1, 609	1, 039	1, 241	557	1, 010
Scarlet fever	3, 346	331	903	940	448	229	129	99	107	160
Meningitis	3, 237	254	697	849	547	233	134	221	110	192
Brain fever	1, 314	66	290	556	184	59	47	23	25	64
Falls and blows	1, 177	101	361	290	137	82	36	59	29	82
Measles	1, 083	78	203	354	176	96	44	47	26	59
Typhoid fever	642	44	116	221	95	43	26	46	10	41
Whooping cough	636	43	84	142	117	80	60	44	34	32
Disease of the ear	464	32	64	102	80	50	56	42	15	23
Abscess in the head	446	14	21	72	54	98	86	83	9	9
Pneumonia and influenza (grippe)	446	40	86	109	73	45	24	26	11	32
Diphtheria	319	19	74	90	45	32	16	18	12	13
Catarrh	273	7	22	83	34	37	20	45	7	18
Colds	263	18	44	72	45	35	9	14	3	23
Paralysis or infantile paralysis	236	30	37	54	37	21	16	17	8	16
Convulsions	230	18	88	65	18	15	4	5	6	11
Malarial fever and quinine	162	4	24	32	16	20	21	39	1	5
Accident	162	15	42	47	21	9	4	9	4	11
Mumps	159	7	14	42	27	20	17	18	5	9
All other	4, 429	361	738	1, 196	708	405	290	386	135	210

[a] Includes only those for whom the cause of deafness was reported.

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[41] In an investigation of the proportion of deafness ascribed to different causes, as reported in certain schools for the deaf in the United States with respect to their pupils, so far as record has been kept up to 1914, a notable decrease is found in the case of scarlet fever. If its present rate of decline continues, it will before many years cease to be one of the important causes of deafness. The movement of other diseases is found to be varying. Harry Best, The Deaf: Their Position in Society and the Provision for Their Education in the United States, 1914, pp. 30–40.

Table 74.—Deaf-mutes Whose Deafness Was Acquired, by Principal Causes of Deafness, by Geographic Divisions: 1920—Continued

PRINCIPAL CAUSE OF DEAFNESS	United States	GEOGRAPHIC DIVISIONS								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
	PER CENT DISTRIBUTION									
Total, 1920	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Scarlet fever	17.6	22.3	23.1	17.7	15.7	14.2	12.4	8.0	19.2	15.8
Meningitis	17.0	17.1	17.8	16.0	19.1	14.5	12.9	17.8	19.7	19.0
Brain fever	6.9	4.5	7.4	10.5	6.4	3.7	4.5	1.9	4.5	6.3
Falls and blows	6.2	6.8	9.2	5.5	4.8	5.1	3.5	4.8	5.2	8.1
Measles	5.7	5.3	5.2	6.7	6.1	6.0	4.2	3.8	4.7	5.8
Typhoid fever	3.4	3.0	3.0	4.2	3.3	2.7	2.5	3.7	1.8	4.1
Whooping cough	3.3	2.9	2.1	2.7	4.1	5.0	5.8	3.5	6.1	3.2
Disease of the ear	2.4	2.2	1.6	1.9	2.8	3.1	5.4	3.4	2.7	2.3
Abscess in the head	2.3	0.9	0.5	1.4	1.9	6.1	8.3	6.7	1.6	0.9
Pneumonia and influenza (grippe)	2.3	2.7	2.2	2.1	2.6	2.8	2.3	2.1	2.0	3.2
Diphtheria	1.7	1.3	1.9	1.7	1.6	2.0	1.5	1.5	2.2	1.3
Catarrh	1.4	0.5	0.6	1.6	1.2	2.3	1.9	3.6	1.3	1.8
Colds	1.4	1.2	1.1	1.4	1.6	2.2	0.9	1.1	0.5	2.3
Paralysis or infantile paralysis	1.2	2.0	0.9	1.0	1.3	1.3	1.5	1.4	1.4	1.6
Convulsions	1.2	1.2	2.3	1.2	0.6	0.9	0.4	0.4	1.1	1.1
Malarial fever and quinine	0.9	0.3	0.6	0.6	0.6	1.2	2.0	3.1	0.2	0.5
Accident	0.9	1.0	1.1	0.9	0.7	0.6	0.4	0.7	0.7	1.1
Mumps	0.8	0.5	0.4	0.8	0.9	1.2	1.6	1.5	0.9	0.9
All other	23.3	24.4	18.9	22.5	24.7	25.2	27.9	31.1	24.2	20.8
Total, 1910	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Scarlet fever	18.9	31.0	24.0	18.9	16.0	15.6	12.4	8.8	18.8	21.4
Meningitis	17.0	12.8	18.8	17.0	19.4	13.0	13.9	14.2	21.4	22.4
Brain fever	8.7	6.9	9.5	12.5	9.3	3.5	5.9	4.0	6.1	7.7
Falls and blows	5.5	7.6	8.7	4.4	4.2	5.1	3.9	3.5	4.4	5.9
Measles	4.9	4.5	5.1	5.5	4.9	5.7	3.9	4.1	3.5	3.6
Typhoid fever	3.6	3.2	2.8	4.5	3.6	3.5	3.2	4.0	3.9	3.4
Whooping cough	2.8	2.0	2.0	2.8	3.7	3.1	3.7	3.0	1.7	3.9
Disease of the ear	2.2	1.5	2.0	1.3	2.4	3.7	3.4	4.4	1.3	0.8
Abscess in the head	3.3	1.4	1.0	2.2	2.5	7.7	9.3	7.0	2.2	1.0
Pneumonia	1.0	1.2	1.0	0.8	1.1	1.0	0.6	0.7	1.3	1.5
Diphtheria	1.6	1.1	1.8	1.9	1.0	1.9	1.6	0.9	3.9	0.5
Catarrh	1.8	0.2	1.2	1.6	1.3	2.9	2.5	4.1	0.9	1.8
Colds	1.5	1.8	1.0	1.4	1.6	2.0	1.8	1.0	1.3	2.6
Paralysis or infantile paralysis	0.3	0.5	0.3	0.1	0.5	0.2	0.1	0.1	1.7	0.8
Convulsions	1.6	1.1	2.8	1.9	0.9	0.7	1.1	0.6	1.7	2.3
Malarial fever and quinine	1.2	0.2	0.2	1.0	0.7	2.0	2.9	4.4	0.4	0.8
Accident	0.5	0.5	0.7	0.6	0.4	0.3	0.6	0.6	------	0.3
Mumps	0.8	0.3	0.5	0.7	0.7	1.1	1.0	2.2	0.9	0.5
All other	22.7	22.3	16.3	21.0	25.7	27.0	28.1	32.5	24.5	18.8

Compared with 1910, decreases are indicated for scarlet fever, abscess in the head, catarrh, colds, malarial fever and quinine, brain fever, typhoid fever, and convulsions; and increases for measles, disease of the ear, diphtheria, pneumonia, influenza, whooping cough, paralysis, general sickness or fever, falls and blows, accidents, and earache. The changes between the two periods are very slight, however, except in the case of pneumonia and brain fever. The proportions for influenza, meningitis, and mumps remain exactly the same, though if meningitis is taken in conjunction with brain fever, there is a decrease.

The proportions for congenital deafness are very high in some sections, especially in the South; in the foregoing table the distribution eliminates the effect of this figure in the distribution of the separate causes reported. The highest proportions of deafness from scarlet fever are in the northeastern part of the country, embracing the New England and Middle Atlantic divisions. Meningitis is responsible for deafness most often in the two far western divisions and in the West North Central division. If meningitis is combined with brain fever, as it doubtless should be, the East North Central and Middle Atlantic divisions should be added to those with relatively high proportions. Measles occurs as a cause of deafness most frequently in the two North Central divisions. Typhoid fever has its highest proportions in the East North Central and Pacific divisions. The proportion for this disease in the Mountain division is very low, being scarcely more than one-half of that for the country at large. Whooping cough, on the other hand, in this division has a proportion almost double that for the whole country, there being high proportions also in the South Atlantic and East South Central divisions. Abscess in the head and malarial fever and quinine are both reported as causes of deafness most commonly in the three southern divisions; mumps, in the two South Central; disease of the ear, in the East South Central; and catarrh, in the West South Central. The proportions for the last named disease in the two northeastern divisions are relatively very small. The highest proportions for influenza (grippe) and for colds are in the Pacific division. The proportion for colds in the Mountain division is relatively small. Pneumonia has its highest proportion in the New England division. Diphtheria has its highest proportion in the Mountain division. Paralysis occurs relatively most often in the New England and Pacific divisions. Convulsions has much the highest proportions in the Middle Atlantic division. Falls and blows and accidents as causes of deafness show variations over the country, but their significance need not be regarded as great.

The variations in the proportions for the different causes of deafness in the different parts of the United States are not readily to be explained, though there are some factors which may throw light on the matter. The relatively low proportions in the South for such important causes of deafness as scarlet fever, meningitis, and measles may in some degree be attributed to the apparent fact that negroes, who form a large part of the population of this section, suffer to a less extent than do whites from infectious or contagious diseases of this character. To some extent climatic conditions, especially wet or cold, have an effect in the matter for the country in general. Epidemics at one time or another in the past have doubtless had some influence in certain areas, though we have little record of their occurrence. No marked correspondence is revealed between the proportions for the different diseases causing deafness and the death rates from such diseases in the several geographic divisions.

Between 1910 and 1920 the movement of the different causes varies not a little for the different sections of the country. Scarlet fever shows a decrease in practically every division, except the Mountain, the decrease being greatest in the New England and Pacific divisions. Meningitis and brain fever together, which have a slight decrease for the country at large, also have decreases for each separate division except the New England, South Atlantic, and West South Central. For measles there is an increase in all divisions except the West South Central, the increase being greatest in the Pacific division. With typhoid fever there is a decrease in all divisions except the Middle Atlantic and Pacific, the decrease being greatest in the Mountain division. With whooping cough an increase is registered in all divisions except the East North Central and

Pacific, the increase being greatest in the Mountain. For disease of the ear there is an increase in all divisions except the Middle Atlantic, South Atlantic, and West South Central, the increase being greatest in the East South Central. The decrease for abscess in the head shows no exceptions. Likewise the increase for pneumonia and influenza shows no exceptions. For diphtheria an increase occurs in all divisions except the East North Central, East South Central, and Mountain, the increase being greatest in the Pacific. There is a decrease for catarrh in practically all divisions except the New England and Mountain; and for colds in practically all except the Middle Atlantic, South Atlantic, and West South Central. The notable increase in paralysis is reflected in all sections except the Mountain. The decrease for convulsions extends to all divisions except the New England and South Atlantic. Malarial fever and quinine have a decrease in all divisions except the New England and Middle Atlantic. The proportion for mumps is the same at both periods for the country as a whole, but there are increases for all divisions except the Middle Atlantic, West South Central, and the Mountain. The increase in the proportion for falls and blows holds for practically all divisions except the New England and East South Central. The increase as to accidents has its sole exception in the East South Central division. The slight increase for all other causes of deafness combined is maintained in all divisions except the West North Central, Mountain, and the three southern divisions.

The reasons for the differences between the two censuses in the causes of deafness in different sections of the country are not immediately clear. Possibly there have been more determined and persistent efforts toward the control of some of the diseases causing deafness, accompanied with better medical attention and fuller medical facilities in some areas than in others. Possibly, also, minor changes in the classification and tabulation of diseases from one census period to the other have had some effect upon the showing.

Race and nativity.—Table 75 shows the number of deaf-mutes according to the leading causes of acquired deafness, for the several race and nativity classes in 1920, together with the percentage distribution in 1920 and 1910.

The comparative value of the figures is reduced by the fact that for foreign-born whites and negroes relatively smaller proportions of specific disorders are reported as responsible for their loss of hearing, these two classes each assigning over three-tenths of their reported deafness to unclassifiable causes, as against about one-fifth for native whites. Accordingly, the proportions for affections of the middle and the internal ear, including the several particular affections for each of these parts, are unduly small for foreign-born whites and negroes; and comparisons must be made with this qualification in mind. The returns with respect to causes affecting the external ear, the proportion indicated being highest for negroes and lowest for foreign-born whites, are peculiarly liable to be erroneous. Finally, an important factor in the entire situation lies in the differences in the proportion of congenital deafness reported for the three classes, the proportion for negroes being very high, and that for the foreign-born whites rather low.[42]

Even with the qualifications just set forth it appears to be a fact that negroes are less susceptible to those causes of deafness which produce suppurative conditions in the ear, largely contagious or infectious in character. Their proportion for such causes is 25.4 per cent, while that for whites is 35.4 per cent. In the case of scarlet fever in particular the difference between the two races is striking, the proportion for negroes being only a little over one-third of that for whites. The relative difference in the percentages is even greater in the case of influenza, and almost as great in the case of diphtheria, though based on a smaller number of cases. The difference in the case of measles is much less marked. On the other hand, negroes appear somewhat more liable than whites to disease of the ear and abscess in the head; doubtless the real trouble in such cases is sometimes one of the suppurative affections just mentioned, and correct diagnosis of the cause would tend to reduce the differences between the races for such affections. The one particular affection of a suppurative nature which is more likely to cause deafness among negroes than among whites is pneumonia, the proportion in the case of negroes being three times as great as for whites. With respect to all causes of nonsuppurative character the proportions for the two races are exactly the same, the whites, however, showing higher proportions for whooping cough and colds, and negroes for catarrh.

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[42] See section on Age When Deafness Occurred, Table 23, p. 37.

Negroes, it would also seem, show less tendency generally to affections of the auditory nerve of the internal ear than do whites, save as to convulsions. This is true of practically every specific disorder of such kind, including meningitis when considered in combination with brain fever. Negroes, however, are more susceptible to disorders of the labyrinth, largely because of their much greater liability to the effects of malarial fever and quinine.

Native whites seem more subject to certain affections causing deafness than foreign-born whites, and less subject to certain other diseases. The foreign born appear more susceptible in the case of scarlet fever, but less so in the case of all other suppurative affections, and much less so in the case of the nonsuppurative affections generally. The foreign born are also less susceptible to affections of the auditory nerve (meningitis and brain fever being regarded in combination) except in the case of typhoid fever, and of affections of the labyrinth generally.

The reasons for the relative susceptibility of the several race and nativity classes to the various affections that produce deafness are by no means easy to determine fully, though the explanation is possibly similar to that already stated with respect to the greater liability of one sex than the other to certain diseases (p. 109). In some instances there may be in one group an inherent resisting power in the organ of hearing which serves to ward off its threatened destruction; or else the disorder that might occasion deafness may prove of such virulence as to cut short life itself, thereby preventing in individual cases the coming of deafness from such disorder. The former theory seems to be true with respect to certain diseases, where the proportion for deafness and the proportion for deaths, based upon all causes, are alike greater for whites than for colored; these diseases include scarlet fever, measles, diphtheria, pneumonia, and malaria—all but one of them affections of the middle ear. The second theory seems to hold with respect to other diseases, where the proportion for deafness and the proportion for deaths are not both greater for the same group—such diseases including meningitis (with brain fever), typhoid fever, influenza, and whooping cough. In some cases a group may have been exposed to some epidemic or local outbreak of disease, which has taken toll in the breaking down of the faculty of audition. As a particular instance, negroes are more subject than whites to deafness from pneumonia simply because of their greater liability generally to that disease, resulting from their greater exposure to it, or from their greater predisposition to respiratory diseases in general. In some cases, on the other hand, one group may have been advantageously situated with respect to timely or skilled medical aid, which has prevented the occurrence of deafness, or at least of total deafness.

TABLE 75.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, CLASSIFIED BY RACE, NATIVITY, AND REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	NUMBER [1]					
	All classes	White			Negro	Other colored
		Total	Native	Foreign-born		
Total	[2] 19,024	18,464	16,772	1,692	515	45
Causes affecting the external ear	132	125	117	8	7	------
Causes affecting the middle ear	8,290	8,098	7,448	650	174	18
Causes producing suppurative condition	6,682	6,538	5,952	586	131	13
Scarlet fever	3,346	3,306	2,881	425	34	6
Measles	1,083	1,060	995	65	22	1
Disease of the ear	464	448	432	16	15	1
Abscess in the head	446	424	421	3	22	------
Diphtheria	319	315	289	26	4	------
Pneumonia	295	269	258	11	23	3
Influenza (grippe)	151	150	147	3	1	------
All other	578	566	529	37	10	2
Causes not producing suppurative condition	1,589	1,541	1,479	62	43	5
Whooping cough	636	620	593	27	13	3
Catarrh	273	263	256	7	8	2
Colds	263	258	243	15	5	------
All other	417	400	387	13	17	------
All other causes affecting the middle ear	19	19	17	2	--------	------
Causes affecting the internal ear	6,429	6,256	5,766	490	163	10
Causes affecting the labyrinth	372	348	332	16	22	2
Malarial fever and quinine	162	146	142	4	14	2
Mumps	159	156	146	10	3	------
All other	51	46	44	2	5	------
Causes affecting the auditory nerve	5,976	5,828	5,364	464	140	8
Meningitis	3,237	3,140	3,030	110	92	5
Brain fever	1,314	1,300	1,131	169	12	2
Typhoid fever	642	626	497	129	15	1
Paralysis and infantile paralysis	236	230	215	15	6	------
Convulsions	230	223	203	20	7	------
All other	317	309	288	21	8	------
All other causes affecting the internal ear	81	80	70	10	1	------
Combination of different classes of causes	268	261	243	18	7	------
Unclassifiable causes	3,905	3,724	3,198	526	164	17
Sickness or fever	1,962	1,864	1,589	275	87	11
Falls and blows	1,177	1,125	954	171	49	3
Accident	162	157	129	28	5	------
Earache	158	155	145	10	3	------
All other	446	423	381	42	20	3

See footnotes at end of table.

TABLE 75.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, CLASSIFIED BY RACE, NATIVITY, AND REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	PER CENT DISTRIBUTION									
	1920					1910				
	All classes[3]	White			Negro	All classes[3]	White			Negro
		Total	Native	Foreign-born			Total	Native	Foreign-born	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Causes affecting the external ear	0.7	0.7	0.7	0.5	1.4	0.6	0.6	0.5	0.8	1.2
Causes affecting the middle ear	43.6	43.9	44.4	38.4	33.8	42.4	42.9	43.8	36.0	30.2
Causes producing suppurative condition	35.1	35.4	35.5	34.6	25.4	34.9	35.4	35.7	33.1	21.8
Scarlet fever	17.6	17.9	17.2	25.1	6.6	18.9	19.3	18.7	24.6	7.7
Measles	5.7	5.7	5.9	3.8	4.3	4.9	5.0	5.1	4.1	3.7
Disease of the ear	2.4	2.4	2.6	0.9	2.9	2.2	2.3	2.4	0.8	1.5
Abscess in the head	2.3	2.3	2.5	0.2	4.3	3.3	3.3	3.6	0.2	4.2
Diphtheria	1.7	1.7	1.7	1.5	0.8	1.6	1.6	1.6	1.4	0.5
Pneumonia	1.6	1.5	1.5	0.7	4.5	1.0	0.9	1.0	0.1	1.2
Influenza (grippe)	0.8	0.8	0.9	0.2	0.2	0.8	0.8	0.9	0.1	1.0
All other	3.0	3.1	3.2	2.2	1.9	2.2	2.2	2.3	1.9	2.0
Causes not producing suppurative condition	8.4	8.3	8.8	3.7	8.3	7.4	7.4	7.9	2.8	8.4
Whooping cough	3.3	3.4	3.5	1.6	2.5	2.8	2.8	3.0	1.2	2.5
Catarrh	1.4	1.4	1.5	0.4	1.6	1.8	1.8	2.0	0.2	1.7
Colds	1.4	1.4	1.4	0.9	1.0	1.5	1.5	1.5	1.1	1.7
All other	2.2	2.2	2.3	0.8	3.3	1.4	1.3	1.4	0.4	2.5
All other causes affecting the middle ear	0.1	0.1	0.1	0.1	------	0.1	0.1	0.1	0.1	-----
Causes affecting the internal ear	33.8	33.9	34.4	29.0	31.7	34.5	34.6	35.2	29.8	33.4
Causes affecting the labyrinth	2.0	1.9	2.0	0.9	4.3	2.1	2.0	2.1	1.1	6.4
Malarial fever and quinine	0.9	0.8	0.8	0.2	2.7	1.2	1.1	1.2	0.4	4.7
Mumps	0.8	0.8	0.9	0.6	0.6	0.8	0.8	0.8	0.8	0.7
All other	0.3	0.2	0.3	0.1	1.0	0.1	0.1	0.1	------	1.0
Causes affecting the auditory nerve	31.4	31.6	32.0	27.4	27.2	32.0	32.2	32.7	28.2	26.7
Meningitis	17.0	17.0	18.1	6.5	17.9	17.0	17.0	18.3	6.3	20.0
Brain fever	6.9	7.0	6.7	10.0	2.3	8.7	9.0	8.6	11.7	2.0
Typhoid fever	3.4	3.4	3.0	7.6	2.9	3.6	3.6	3.1	7.8	3.7
Paralysis and infantile paralysis	1.2	1.2	1.3	0.9	1.2	0.3	0.3	0.3	0.6	0.2
Convulsions	1.2	1.2	1.2	1.2	1.4	1.6	1.7	1.8	1.1	0.2
All other	1.7	1.7	1.7	1.2	1.6	0.6	0.6	0.7	0.5	0.5
All other causes affecting the internal ear	0.4	0.4	0.4	0.6	0.2	0.4	0.4	0.4	0.4	0.2
Combination of different classes of causes	1.4	1.4	1.4	1.1	1.4	0.5	0.5	0.5	0.4	0.5
Unclassifiable causes	20.5	20.2	19.1	31.1	31.8	22.0	21.4	20.0	33.1	34.7
Sickness or fever	10.3	10.1	9.5	16.3	16.9	9.3	8.8	8.2	14.2	20.3
Falls and blows	6.2	6.1	5.7	10.1	9.5	5.5	5.5	4.8	10.5	6.9
Accident	0.9	0.9	0.8	1.7	1.0	0.5	0.5	0.5	0.7	0.7
Earache	0.8	0.8	0.9	0.6	0.6	0.6	0.6	0.6	0.4	-----
All other	2.3	2.3	2.3	2.5	3.9	6.0	6.0	5.8	7.2	6.7

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[1] Includes those for whom the age when hearing was lost was not reported.
[2] Includes only those for whom the cause of deafness was reported.
[3] Includes colored other than negroes.

The proportions for the three race and nativity classes in 1920 and in 1910 roughly correspond. Increases or decreases for one class are generally accompanied by similar increases or decreases for the other classes, though perhaps not at the same rate. Causes producing suppurative condition in the middle ear, as a group, show a decrease only for native whites, though there is a decrease in scarlet fever for negroes also. Pneumonia shows a particularly large increase for foreign-born whites and negroes, no doubt resulting to some extent from better reporting at the later census. Measles manifests a decrease for foreign-born whites alone. For nonsuppurative causes, as a group, negroes alone register a decrease, slight though this is. With catarrh there is an increase only among foreign-born whites. In affections involving the auditory nerve there is an increase for negroes only, an increase due possibly to the specific inclusion of paralysis in 1920. With convulsions there is a decrease only for native whites, the increase for negroes being considerable. In the case of mumps there is an increase for native whites only.

The changes in the proportions among the several race and nativity classes are probably on the whole too small to be of any great significance. Except as they are brought about by altered classifications or by the manner of reporting, the changes very likely indicate for the most part the extent of medical attention available among the several groups for the different disorders in 1920, as compared with 1910. Perhaps they also indicate to some extent the outbreak of an infectious disorder in some locality inhabited largely by one or the other of the particular groups.

Age when hearing was lost.—In Table 76 are shown the percentages for the causes of acquired deafness according to the age when such deafness occurred, together with numbers on which the percentages are based.

The most notable fact shown by this table is the large percentage of cases in which deafness comes on in the second year of life from causes affecting the middle ear (44.9 per cent). At 2 to 4, and at less than 1 year, the percentages are only slightly lower. Suppurative affections of this part of the ear occur relatively more frequently in the years of childhood just following infancy. Scarlet fever is at its height as a cause of deafness from 5 to 9, with the period from 2 to 4 not far below, and the period after 9 coming third. Measles and disease of the ear are most dangerous to hearing in the second year of life. Abscess in the head and pneumonia threaten most in the first year. Diphtheria and influenza as causes of deafness are at their worst after the early years of childhood, or at 10 or over. Nonsuppurative affections are in general most hurtful to the auditory faculties in the years after early childhood, catarrh and colds mainly accounting for the situation. Whooping cough is more dangerous in infancy.

Causes affecting the internal ear are slightly more serious for the period from 5 to 9 years than for any other. This is also the case for affections involving the auditory nerve, and for meningitis in particular, whether considered alone or in conjunction with brain fever. Typhoid fever has its largest proportion at 10 years of age or over, though the proportion for the preceding period is almost as great. Paralysis (including, as it does, infantile paralysis) and convulsions are most damaging to the hearing during the first year of life. Affections of the labyrinth, on the whole, reach their greatest proportion after 9 years, though the proportion for mumps is greatest from 5 to 9, and for malarial fever under 5. Deafness from falls and blows is caused more often in the second year of life than at any other time, though deafness from accidents in general is most frequent after the years of early childhood.

Of persons losing hearing in the first 5 years of life, the definite causes of deafness are, in order, meningitis (including brain fever), scarlet fever, measles, whooping cough, and typhoid fever. In the first year of life the most important causes are meningitis, scarlet fever, measles, whooping cough, and abscess in the head; in the second year, meningitis, scarlet fever, measles, whooping cough, and disease of the ear; from the third to the fifth year, meningitis, scarlet fever, measles, typhoid fever, and whooping cough; from the sixth to the tenth year, meningitis, scarlet fever, typhoid fever, measles, mumps, and diphtheria; after the tenth year, meningitis, scarlet fever, typhoid fever, catarrh, measles, and diphtheria. Meningitis (together with brain fever) thus constitutes the leading single cause of deafness at any age, and scarlet fever the next; these two diseases are by far the most dangerous at all periods.

TABLE 76.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, CLASSIFIED BY AGE WHEN HEARING WAS LOST, AND REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	Total [1]	AT LESS THAN 10 YEARS OF AGE						At 10 yrs. of age or over
		Total [2]	At less than 5 years				At 5 to 9 years	
			Total [3]	Less than 1 year	1 year	2 to 4 years		
	NUMBER							
All causes	21,513	20,595	16,458	2,802	3,973	9,226	3,516	250
Causes affecting the external ear	132	129	112	26	26	56	16	-----
Causes affecting the middle ear	8,290	8,132	6,656	1,125	1,667	3,753	1,362	81
Causes producing suppurative condition	6,682	6,565	5,315	844	1,289	3,107	1,175	59
Scarlet fever	3,346	3,287	2,457	234	458	1,745	790	33
Measles	1,083	1,071	919	156	275	476	141	5
Disease of the ear	464	459	417	83	148	170	31	2
Abscess in the head	446	433	403	133	110	150	26	2
Diphtheria	319	312	257	30	61	160	51	5
Pneumonia	295	290	270	81	85	102	20	2
Influenza (grippe)	151	147	114	28	29	56	32	4
All other	578	566	478	99	123	248	84	6
Causes not producing suppurative condition	1,589	1,548	1,325	273	377	639	184	22
Whooping cough	636	633	571	149	166	242	46	2
Catarrh	273	255	199	23	50	118	49	10
Colds	263	256	209	45	60	99	44	4
All other	417	404	346	56	101	180	45	6
All other causes affecting the middle ear	19	19	16	8	1	7	3	-----
Causes affecting the internal ear	6,429	6,318	4,997	858	1,109	2,968	1,281	67
Causes affecting the labyrinth	372	365	275	50	66	153	89	6
Malarial fever and quinine	162	161	139	23	34	80	21	1
Mumps	159	156	99	15	23	59	57	3
All other	51	48	37	12	9	14	11	2
Causes affecting the auditory nerve	5,976	5,876	4,667	790	1,029	2,793	1,173	57
Meningitis	3,237	3,183	2,457	413	501	1,522	715	36
Brain fever	1,314	1,292	1,068	163	243	653	215	8
Typhoid fever	642	628	456	42	90	319	167	11
Paralysis and infantile paralysis	236	233	203	64	58	73	26	-----
Convulsions	230	227	213	55	64	87	12	-----
All other	317	313	270	53	73	139	38	2
All other causes affecting the internal ear	81	77	55	18	14	22	19	4
Combination of different classes of causes	268	263	226	43	59	123	36	1
Unclassifiable causes	3,905	3,802	3,171	554	855	1,677	569	47
Sickness or fever	1,962	1,916	1,565	277	414	829	309	19
Falls and blows	1,177	1,146	992	166	273	531	142	12
Accident	162	156	115	19	24	67	41	5
Earache	158	155	139	38	28	69	13	1
All other	446	429	360	54	116	181	64	10
Causes unknown or not reported	2,489	1,951	1,296	196	257	649	252	54

See footnotes at end of table.

Table 76.—Deaf-mutes Whose Deafness Was Acquired, Classified by Age When Hearing Was Lost, and Reported Cause of Deafness, for the United States: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	Total [1]	AT LESS THAN 10 YEARS OF AGE						At 10 yrs. of age or over
		Total [2]	At less than 5 years				At 5 to 9 years	
			Total [3]	Less than 1 year	1 year	2 to 4 years		
	PER CENT DISTRIBUTION [4]							
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Causes affecting the external ear	0.7	0.7	0.7	1.0	0.7	0.7	0.5	-----
Causes affecting the middle ear	43.6	43.6	43.9	43.2	44.9	43.8	41.7	41.3
Causes producing suppurative condition	35.1	35.2	35.1	32.4	34.7	36.2	36.0	30.1
Scarlet fever	17.6	17.6	16.2	9.0	12.3	20.3	24.2	16.8
Measles	5.7	5.7	6.1	6.0	7.4	5.5	4.3	2.6
Disease of the ear	2.4	2.5	2.8	3.2	4.0	2.0	0.9	1.0
Abscess in the head	2.3	2.3	2.7	5.1	3.0	1.7	0.8	1.0
Diphtheria	1.7	1.7	1.7	1.2	1.6	1.9	1.6	2.6
Pneumonia	1.6	1.6	1.8	3.1	2.3	1.2	0.6	1.0
Influenza (grippe)	0.8	0.8	0.8	1.1	0.8	0.7	1.0	2.0
All other	3.0	3.0	3.2	3.8	3.3	2.9	2.6	3.1
Causes not producing suppurative condition	8.4	8.3	8.7	10.5	10.1	7.5	5.6	11.2
Whooping cough	3.3	3.4	3.8	5.7	4.5	2.8	1.4	1.0
Catarrh	1.4	1.4	1.3	0.9	1.3	1.4	1.5	5.1
Colds	1.4	1.4	1.4	1.7	1.6	1.2	1.3	2.0
All other	2.2	2.2	2.3	2.1	2.7	2.1	1.4	3.1
All other causes affecting the middle ear	0.1	0.1	0.1	0.3	(5)	0.1	0.1	-----
Causes affecting the internal ear	33.8	33.9	33.0	32.9	29.8	34.6	39.2	34.2
Causes affecting the labyrinth	2.0	2.0	1.8	1.9	1.8	1.8	2.7	3.1
Malarial fever and quinine	0.9	0.9	0.9	0.9	0.9	0.9	0.6	0.5
Mumps	0.8	0.8	0.7	0.6	0.6	0.7	1.7	1.5
All other	0.3	0.3	0.2	0.5	0.2	0.2	0.3	1.0
Causes affecting the auditory nerve	31.4	31.5	30.8	30.3	27.7	32.6	35.9	29.1
Meningitis	17.0	17.1	16.2	15.8	13.5	17.7	21.9	18.4
Brain fever	6.9	6.9	7.0	6.3	6.5	7.6	6.6	4.1
Typhoid fever	3.4	3.4	3.0	1.6	2.4	3.7	5.1	5.6
Paralysis and infantile paralysis	1.2	1.2	1.3	2.5	1.6	0.9	0.8	-----
Convulsions	1.2	1.2	1.4	2.1	1.7	1.0	0.4	-----
All other	1.7	1.7	1.8	2.0	2.0	1.6	1.2	1.0
All other causes affecting the internal ear	0.4	0.4	0.4	0.7	0.4	0.3	0.6	2.0
Combination of different classes of causes	1.4	1.4	1.5	1.7	1.6	1.4	1.1	0.5
Unclassifiable causes	20.5	20.4	20.9	21.3	23.0	19.6	17.4	24.0
Sickness or fever	10.3	10.3	10.3	10.6	11.1	9.7	9.5	9.7
Falls and blows	6.2	6.1	6.5	6.4	7.3	6.2	4.4	6.1
Accident	0.9	0.8	0.8	0.7	0.6	0.8	1.3	2.6
Earache	0.8	0.8	0.9	1.5	0.8	0.8	0.4	0.5
All other	2.3	2.3	2.4	2.1	3.1	2.1	2.0	5.1

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[1] Includes those for whom the age when hearing was lost was not reported.

[2] Includes those who were reported as having lost their hearing in infancy and childhood, but without statement as to exact age.

[3] Includes those who were reported as having lost their hearing in infancy, but without statement as to exact age.

[4] Based upon the number reporting the cause of deafness.

[5] Less than one-tenth of 1 per cent.

Heredity and consanguinity.—In the causation of deafness no small part is played by heredity, even though the connection of the one with the other is as yet but imperfectly understood. Inquiries upon this subject in census statistics are concerned with the existence of deaf parents, of deaf brothers or sisters, and of deaf children, the inquiries as to deaf parents including, furthermore, information as to their consanguinity. It is to be borne in mind that the figures relate to individual deaf-mute persons and not to families. They do not show the number of families having more than one deaf member at one and the same time. In the tables showing family relationships, therefore, when there is more than one return from the same family there results a certain number of duplications, or really cross references, which have not appeared in the previous statistics. In other words, the total number of deaf-mute relatives is not as great as the sum of the number of deaf parents, brothers or sisters, and children reported.

It is well to remember that in a limited proportion of cases the deafness reported as in another member of one's family, especially in a brother or sister, may be really chargeable to some disease of infectious character operating in early life, when the matter of heredity is not involved at all. On the other hand, certain forms of hereditary deafness do not manifest themselves till comparatively late in life, or till some time after regular speech has been acquired, with the result that persons so affected are not classified as deaf-mutes; hence the census statistics relating to heredity by no means bring out the actual extent of hereditary deafness.[43] In some degree the foregoing considerations serve to offset one another.

Of foremost importance in studying the connection between a given characteristic and heredity, or the transmissibility of a characteristic, would be the factor of the existence of relatives having that characteristic. Some evidence of the hereditary character of deafness would thus be revealed in the existence of deaf relatives.

The following series of tables (pp. 122–141) brings out the information on this subject, so far as reported on the special schedules. The large proportion of unclassifiable causes reported, in addition to some natural errors in stating family relationships, make it necessary to use these tables with caution.

The number of deaf-mutes reported in 1920 as having deaf relatives is indicated in Table 77, in which are shown the number and the per cent of those having one or both parents deaf, those having deaf brothers or sisters, and those having deaf children.

Considering only those deaf-mutes from whom definite returns are available, the proportion of deaf-mutes having a deaf parent, whether one parent or both parents, is 3.3 per cent.[44] The proportion having deaf brothers or sisters is 25.3 per cent. The proportion having deaf children is 8.3 per cent. The relatively very high proportion, amounting to a little over one-fourth, of deaf-mutes with deaf brothers or sisters is perhaps in some respects the most decided indication of the extent to which deafness prevails in certain families, or the extent to which heredity constitutes a factor in the causation of deafness—though due allowance should be made for the possibility of acquired deafness, especially from contagious diseases, among members of the same family.

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[43] Hereditary deafness and congenital deafness may thus be quite different, the former not infrequently appearing at a later stage of life and not at birth. This is especially true of catarrhal affections and certain other middle ear affections responsible for deafness. Such deafness may often be partial rather than total.

[44] The proportion having both parents deaf is 2 per cent. See Tables 80 and 81.

TABLE 77.—DEAF-MUTES REPORTING AS TO HEARING OF PARENTS, CLASSIFIED ACCORDING TO HEARING OF BROTHERS AND SISTERS AND OF CHILDREN, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

HEARING OF BROTHERS OR SISTERS AND CHILDREN	DEAF-MUTES REPORTING AS TO HEARING OF PARENTS		ONE OR BOTH PARENTS DEAF			NEITHER PARENT DEAF		
	Total number	Per cent distribution	Number	Per cent distribution	Per cent of total	Number	Per cent distribution	Per cent of total
Deaf-mutes reporting brothers or sisters, total	31,351	100.0	1,033	100.0	3.3	30,318	100.0	96.7
Reporting deaf brothers or sisters	7,917	25.3	668	64.7	8.4	7,249	23.9	91.6
Reporting brothers or sisters, but not deaf	23,434	74.7	365	35.3	1.6	23,069	76.1	98.4
Deaf-mutes reporting children, total	8,319	100.0	313	100.0	3.8	8,006	100.0	96.2
Reporting deaf children	688	8.3	78	24.9	11.3	610	7.6	88.7
Reporting children, but not deaf	7,631	91.7	235	75.1	3.1	7,396	92.4	96.9

The extent of deafness in particular families is further indicated, in Table 77, by the degree in which deaf-mutes have deaf relatives of more than one kind, or in the correlation of deafness in one of the several groups with deafness in another.

Of those deaf-mutes having a parent deaf, 64.7 per cent have brothers or sisters who are deaf. This proportion is almost three times as large as the corresponding proportion for those not having a deaf parent (23.9 per cent). Of those having a parent deaf, about one-fourth (24.9 per cent) have themselves children who are deaf. This proportion is over three times as large as the corresponding proportion for those not having a deaf parent (7.6 per cent).

The percentage for deaf-mutes having deaf parents and also deaf brothers or sisters is somewhat over five times as large as the corresponding percentage for those not having deaf brothers or sisters, or 8.4 per cent as against 1.6 per cent. The percentage of deaf-mutes with deaf parents and also deaf children is nearly four times as large as the corresponding percentage for those not having deaf children, or 11.3 per cent as against 3.1 per cent.

Table 78 gives figures for married, widowed, or divorced deaf-mutes 15 years of age and over, showing the number reporting deaf children correlated with the number reporting deaf brothers or sisters.

TABLE 78.—MARRIED, WIDOWED, OR DIVORCED DEAF-MUTES REPORTING AS TO HEARING OF BROTHERS OR SISTERS, CLASSIFIED ACCORDING TO HEARING OF CHILDREN, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

HEARING OF CHILDREN	DEAF-MUTES REPORTING AS TO HEARING OF BROTHERS OR SISTERS		BROTHERS OR SISTERS DEAF			BROTHERS OR SISTERS, BUT NOT DEAF		
	Total number	Per cent distribution	Number	Per cent distribution	Per cent of total	Number	Per cent distribution	Per cent of total
Deaf-mutes reporting children, total	7,611	100.0	2,095	100.0	27.5	5,516	100.0	72.5
Reporting deaf children	604	7.9	288	13.7	47.7	316	5.7	52.3
Reporting children, but not deaf	7,007	92.1	1,807	86.3	25.8	5,200	94.3	74.2

Of those having deaf brothers or sisters, slightly over one-eighth (13.7 per cent) have in addition children who are deaf. This proportion is over twice as large as the corresponding proportion for those not having deaf brothers or sisters (5.7 per cent). The proportion of deaf-mutes who have deaf brothers or sisters and who also have deaf children is almost twice as large as the proportion for those not having deaf children, or 47.7 per cent, as against 25.8 per cent.[45]

In all these results are found evidence of the effects of heredity, or the extent to which deafness persists in given families, even with all necessary allowance being made for that portion of deafness which is due to acquired disease, frequently of infectious or contagious character, which spreads to several members of a family.

In Table 79 are given, for the several race and nativity groups, the number of deaf-mutes reporting one or both parents deaf, together with the percentages based on these figures.

TABLE 79.—DEAF-MUTES BY RACE AND NATIVITY, CLASSIFIED ACCORDING TO HEARING OF PARENTS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

RACE AND NATIVITY	DEAF-MUTES REPORTING AS TO HEARING OF PARENTS		ONE OR BOTH PARENTS DEAF			NEITHER PARENT DEAF	
	Total number	Per cent distribution	Number	Per cent distribution	Per cent of total	Number	Per cent distribution
All classes	34,346	100.0	1,143	100.0	3.3	33,203	100.0
White	32,819	95.6	1,105	96.7	3.4	31,714	95.5
Native	30,247	88.1	1,073	93.9	3.5	29,174	87.9
Foreign-born	2,572	7.5	32	2.8	1.2	2,540	7.6
Negro	1,417	4.1	37	3.2	2.6	1,380	4.2
Other colored	110	0.3	1	0.1	0.9	109	0.3

The highest proportion reporting deaf parents is for native whites, or 3.5 per cent; the next highest, for negroes, or 2.6 per cent; the third highest, for foreign-born whites, or 1.2 per cent; and the lowest, for other colored (mostly Indians), or 0.9 per cent. The reason for the lower proportion for foreign-born whites than for native whites may be that, as deaf-mutes are not likely to migrate to the same extent as do persons in full possession of their faculties, there are relatively fewer of them in the United States with deaf parents. The lower proportion for negroes than for native whites may be due in part to less complete returns for the former race.

In Table 80 are given, for the several race and nativity groups, the number and the percentage distribution of deaf-mutes reporting as to deafness of parents, according to whether the father or the mother, or both, are deaf.

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[45] In certain schools for the deaf the proportion of pupils with deaf parents ranges from less than 1 per cent to 6 or 7 per cent. The proportion with deaf relatives ranges from 10 to 33 per cent. In an investigation of 301 marriages in which one or both partners were deaf, and which resulted in deaf offspring, there have been found to be 65.4 per cent in which one or both partners had deaf brothers or sisters or other deaf relatives. A. G. Bell, Graphical Studies of Marriages of the Deaf, 1917. See also various writings of A. G. Bell, *Volta Review, passim;* E. A. Fay, Marriages of the Deaf, 1898; J. K. Love, Deaf Mutism (Glasgow), 1896; J. K. Love, Causes and Prevention of Deafness (London), 1913; Harry Best, The Deaf: Their Position in Society and the Provision for Their Education in the United States, 1914, p. 47.

TABLE 80.—DEAF-MUTES, BY RACE AND NATIVITY, CLASSIFIED ACCORDING TO HEARING OF FATHER OR MOTHER, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

HEARING OF PARENTS	NUMBER				PER CENT DISTRIBUTION[1]			
	All classes[2]	White		Negro	All classes[2]	White		Negro
		Native	Foreign-born			Native	Foreign-born	
Total	35,026	30,805	2,622	1,487	100.0	100.0	100.0	100.0
Both parents deaf	700	684	11	5	2.0	2.3	0.4	0.4
One parent only deaf	443	389	21	32	1.3	1.3	0.8	2.3
Father only deaf	224	200	11	12	0.7	0.7	0.4	0.8
Mother only deaf	219	189	10	20	0.6	0.6	0.4	1.4
Neither parent deaf	33,203	29,174	2,540	1,380	96.7	96.5	98.8	97.4
Not reporting as to hearing of parents	680	558	50	70				
Total having deaf father	924	884	22	17	2.7	2.9	0.9	1.2
Total having deaf mother	919	873	21	25	2.7	2.9	0.8	1.8

[1] Based upon the number reporting as to hearing of parents.

[2] Includes colored, other than negroes.

Of all deaf-mutes for whom report is made 2 per cent have both parents deaf. In addition, 1.3 per cent have only one parent deaf. This may be taken in part as an indication of the fact that deaf-mutes more often seek their partners in marriage from their own ranks than from without. Of deaf-mutes having only one parent deaf about one-half report the father and one-half the mother.

The proportion having both parents deaf is much the greatest for native whites, or 2.3 per cent, as against 0.4 per cent alike for foreign-born whites and for negroes. This situation may be due in some degree to the larger opportunities of native white deaf-mutes of opposite sexes to make acquaintance, especially at the special schools for the deaf, attendance at these schools being relatively larger for this group. (See Table 39, p. 59.)

Negroes have the largest proportion with only one parent deaf, or 2.3 per cent, as against 1.3 per cent for native whites, and 0.8 per cent for foreign-born whites. The deaf parent in the case of negroes is much more often the mother, but in the case of whites it is about as often the father.

In Table 81 are shown the number of deaf-mutes classified acccording to the ability of either one or both parents to hear, together with the number and the percentage distribution by age at which deafness occurred. In addition, all those whose deafness is congenital and all whose deafness is acquired are distributed according to the ability of their parents to hear.

Congenital deafness in children is at least twice as likely as adventitious deafness when both parents are deaf, the proportion of the former kind of deafness in such cases being slightly over two-thirds (67.3 per cent). Moreover, as shown in Table 81, in 3.6 per cent of all those reporting congenital deafness there exists deafness in both parents; while in only 1.1 per cent of the deaf-mutes reporting acquired deafness is this the case. The difference between the two kinds of deafness would be greater still were it not that the deafness in the two parents is often of quite different order, the pathological conditions which caused it perhaps being entirely distinct. In fact, the deafness of one or both parents may itself be adventitious, in which case the probability of deaf offspring is slight. Congenital deafness is also somewhat more likely when only one parent is deaf, the proportion of such deafness in this case being 55.1 per cent. In 1.8 per cent of all congenital deafness there exists deafness in one parent, but in only 0.9 per cent of all acquired deafness. There seems to be a slightly greater chance of congenital deafness when the deaf parent is the mother. The proportion of congenital deafness when neither parent is deaf is 37.7 per cent.

The proportions of acquired deafness occurring at the different ages under 5 years, in all the groups, bear a general correspondence to the proportions for all acquired deafness. Of deafness occurring at 5 years or over there is a relatively small amount in the case of deafness in both parents. In deafness occurring from 5 to 9 the proportions are practically equal for those who have one parent deaf and for those who have neither. In deafness occurring at 10 or over the proportion is much greater for the former group. A considerably larger proportion of deafness also occurs at 10 years or over when the deafness is in the father.

TABLE 81.—DEAF-MUTES, BY AGE WHEN HEARING WAS LOST, CLASSIFIED ACCORDING TO HEARING OF PARENTS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	Total	Both parents reported as deaf	ONE PARENT ONLY REPORTED AS DEAF			Neither parent reported as deaf	Not reporting as to hearing of parents	TOTAL REPORTING—	
			Total	Father only reported as deaf	Mother only reported as deaf			Father deaf	Mother deaf
	NUMBER								
Total	35,026	700	443	224	219	33,203	680	924	919
Deafness congenital	13,513	471	244	118	126	12,527	271	589	597
Deafness acquired [1]	21,513	229	199	106	93	20,676	409	335	322
At age of—									
Less than 10 years	20,595	212	184	97	87	19,957	242	309	299
Less than 1 year	2,802	39	23	14	9	2,718	22	53	48
1 year	3,973	39	33	16	17	3,879	22	55	56
2 to 4 years	9,226	82	67	30	37	9,015	62	112	119
5 to 9 years	3,516	24	47	24	23	3,417	28	48	47
Infancy and childhood [2]	1,078	28	14	13	1	928	108	41	29
10 years or over	250	3	7	5	2	237	3	8	5
Age not reported	668	14	8	4	4	482	164	18	18
	PER CENT DISTRIBUTION								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Deafness congenital	38.6	67.3	55.1	52.7	57.5	37.7	39.9	63.7	65.0
Deafness acquired [1]	61.4	32.7	44.9	47.3	42.5	62.3	60.1	36.3	35.0
At age of—									
Less than 10 years	58.8	30.3	41.5	43.3	39.7	60.1	35.6	33.4	32.5
Less than 1 year	8.0	5.6	5.2	6.3	4.1	8.2	3.2	5.7	5.2
1 year	11.3	5.6	7.4	7.1	7.8	11.7	3.2	6.0	6.1
2 to 4 years	26.3	11.7	15.1	13.4	16.9	27.2	9.1	12.1	12.9
5 to 9 years	10.0	3.4	10.6	10.7	10.5	10.3	4.1	5.2	5.1
Infancy and childhood [2]	3.1	4.0	3.2	5.8	0.5	2.8	15.9	4.4	3.2
10 years or over	0.7	0.4	1.6	2.2	0.9	0.7	0.4	0.9	0.5
Age not reported	1.9	2.0	1.8	1.8	1.8	1.5	24.1	1.9	2.0
	PER CENT OF TOTAL [3]								
Total	100.0	2.0	1.3	0.7	0.6	96.7	-------	2.7	2.7
Deafness congenital	100.0	3.6	1.8	0.9	1.0	94.6	-------	4.4	4.5
Deafness acquired [1]	100.0	1.1	0.9	0.5	0.4	98.0	-------	1.6	1.5

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[1] Includes those for whom the age when hearing was lost was not reported.
[2] Exact age not reported.
[3] Based upon the number reporting as to hearing of parents.

In Table 82 are given the number of deaf-mutes who are congenitally deaf, correlated with reported deafness in a parent, brothers or sisters, or children.

TABLE 82.—DEAF-MUTES REPORTED AS CONGENITALLY DEAF OR OTHERWISE, CLASSIFIED ACCORDING TO HEARING OF PARENTS, OF BROTHERS OR SISTERS, AND OF CHILDREN, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

HEARING OF PARENTS, BROTHERS OR SISTERS, AND CHILDREN	DEAF-MUTES REPORTING AS TO HEARING OF RELATIVES		REPORTED AS CONGENITALLY DEAF			NOT REPORTED AS CONGENITALLY DEAF		
	Total number	Per cent distribution	Number	Per cent distribution	Per cent of total	Number	Per cent distribution	Per cent of total
Deaf-mutes reporting hearing of parents, total	34, 346	100. 0	13, 242	100. 0	38. 6	21, 104	100. 0	61. 4
Reporting one or both parents deaf	1, 143	3. 3	715	5. 4	62. 6	428	2. 0	37. 4
Neither parent reported deaf	33, 203	96. 7	12, 527	94. 6	37. 7	20, 676	98. 0	62. 3
Deaf-mutes reporting brothers or sisters, total	31, 586	100. 0	12, 119	100. 0	38. 4	19, 467	100. 0	61. 6
Reporting deaf brothers or sisters	7, 990	25. 3	5, 323	43. 9	66. 6	2, 667	13. 7	33. 4
Reporting brothers or sisters, but not deaf	23, 596	74. 7	6, 796	56. 1	28. 8	16, 800	86. 3	71. 2
Deaf-mutes reporting children, total	8, 363	100. 0	2, 399	100. 0	28. 7	5, 964	100. 0	71. 3
Reporting deaf children	693	8. 3	308	12. 8	44. 4	385	6. 5	55. 6
Reporting children, but not deaf	7, 670	91. 7	2, 091	87. 2	27. 3	5, 579	93. 5	72. 7

With each class the proportion of deaf-mutes having deaf relatives is much greater for those whose deafness is congenital than for those whose deafness is not congenital. The proportion having a deaf parent is about twice as large for the congenitally deaf as for those not congenitally deaf, or 5.4 per cent for the former, as compared with 2 per cent for the latter. The proportion having deaf brothers or sisters is 43.9 per cent for the congenital group and only 13.7 per cent for the noncongenital. The proportion having deaf children is 12.8 per cent for the congenitally deaf and only 6.5 per cent for the noncongenitally deaf. The connection between congenital deaf-mutism and deafness among relatives is also to be seen from another point of view. Among the congenitally deaf, the proportion of all who have a deaf parent is 62.6 per cent, while the corresponding proportion for those who do not have a deaf parent is 37.7. The proportion for those reporting deaf brothers or sisters is 66.6 per cent, and for those not having deaf brothers or sisters, 28.8 per cent. The proportion for those reporting deaf children is 44.4 per cent, and for those not reporting deaf children, 27.3 per cent.[46]

Table 83 shows the total number of deaf-mutes returning special schedules, distributed according to the principal causes of deafness, correlated with figures showing parental deafness. Table 84 gives a percentage distribution, by known causes, for adventitious deafness only.

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[46] In marriages in which both partners are deaf and have deaf relatives, the proportion of children who are deaf is 30.3 per cent. E. A. Fay, Marriages of the Deaf, 1898.

TABLE 83.—DEAF-MUTES CLASSIFIED BY REPORTED CAUSE OF DEAFNESS AND BY HEARING OF PARENTS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	Total	Both parents reported deaf	ONE PARENT ONLY REPORTED DEAF			Neither parent reported deaf	Not reported as to hearing of parents
			Total	Father deaf	Mother deaf		
All causes	35,026	700	443	224	219	33,203	680
Causes affecting the external ear	132	4	5	3	2	122	1
Causes affecting the middle ear	8,290	86	81	41	40	8,058	65
Causes producing suppurative condition	6,682	47	56	31	25	6,525	54
Scarlet fever	3,346	19	20	12	8	3,283	24
Measles	1,083	8	13	4	9	1,056	6
Disease of the ear	464	5	4	2	2	449	6
Abscess in the head	446	3	6	3	3	434	3
Diphtheria	319	2	4	3	1	310	3
Pneumonia	295	2	3	2	1	284	6
Influenza (grippe)	151	1	2	1	1	145	3
All other	578	7	4	4	------	564	3
Causes not producing suppurative condition	1,589	37	25	10	15	1,516	11
Whooping cough	636	20	8	3	5	603	5
Catarrh	273	5	6	1	5	262	------
Colds	263	9	3	------	3	250	1
All other	417	3	8	6	2	401	5
All other causes affecting the middle ear	19	2	------	------	------	17	------
Causes affecting the internal ear	6,429	28	34	19	15	6,324	43
Causes affecting the labyrinth	372	7	5	4	1	360	------
Malarial fever and quinine	162	1	4	3	1	157	------
Mumps	159	3	------	------	------	156	------
All other	51	3	1	1	------	47	------
Causes affecting the auditory nerve	5,976	21	28	14	14	5,885	42
Meningitis	3,237	6	9	6	3	3,195	27
Brain fever	1,314	6	7	5	2	1,295	6
Typhoid fever	642	3	6	2	4	628	5
Paralysis or infantile paralysis	236	------	1	------	1	234	1
Convulsions	230	4	2	1	1	224	------
All other	317	2	3	------	3	309	3
All other causes affecting the internal ear	81	------	1	1	------	79	1
Combination of different classes of causes	268	5	5	4	1	256	2
Unclassifiable causes	17,418	527	280	133	147	16,310	301
Congenital	13,513	467	239	116	123	12,534	273
Falls and blows	1,177	32	8	6	2	1,134	3
Accident	162	2	3	1	2	156	1
All other	2,566	26	30	10	20	2,486	24
Cause unknown or not reported	2,489	50	38	24	14	2,133	268

TABLE 84.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, REPORTING AS TO HEARING OF PARENTS—PER CENT DISTRIBUTION BY REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED [1]				
	Total [2]	One or both parents reported as deaf	Both parents reported as deaf	One parent only reported as deaf	Neither parent reported as deaf
All reported causes	100.0	100.0	100.0	100.0	100.0
Causes affecting the external ear	0.7	2.6	2.2	3.0	0.7
Causes affecting the middle ear	43.6	47.9	47.0	48.8	43.5
Causes producing suppurative condition	35.1	29.5	25.7	33.7	35.2
Scarlet fever	17.6	11.2	10.4	12.0	17.7
Measles	5.7	6.0	4.4	7.8	5.7
Disease of the ear	2.4	2.6	2.7	2.4	2.4
Abscess in the head	2.3	2.6	1.6	3.6	2.3
Diphtheria	1.7	1.7	1.1	2.4	1.7
Pneumonia	1.6	1.4	1.1	1.8	1.5
Influenza (grippe)	0.8	0.9	0.5	1.2	0.8
All other	3.0	3.2	3.8	2.4	3.0
Causes not producing suppurative condition	8.4	17.8	20.2	15.1	8.2
Whooping cough	3.3	8.0	10.9	4.8	3.3
Catarrh	1.4	3.2	2.7	3.6	1.4
Colds	1.4	3.4	4.9	1.8	1.3
All other	2.2	3.2	1.6	4.8	2.2
All other causes affecting the middle ear	0.1	0.6	1.1	----------	0.1
Causes affecting the internal ear	33.8	17.8	15.3	20.5	34.1
Causes affecting the labyrinth	2.0	3.4	3.8	3.0	1.9
Malarial fever and quinine	0.9	1.4	0.5	2.4	0.8
Mumps	0.8	0.9	1.6	----------	0.8
All other	0.3	1.1	1.6	0.6	0.3
Causes affecting the auditory nerve	31.4	14.0	11.5	16.9	31.7
Meningitis	17.0	4.3	3.3	5.4	17.2
Brain fever	6.9	3.7	3.3	4.2	7.0
Typhoid fever	3.4	2.6	1.6	3.6	3.4
Paralysis or infantile paralysis	1.2	0.3	----------	0.6	1.3
Convulsions	1.2	1.7	2.2	1.2	1.2
All other	1.7	1.4	1.1	1.8	1.7
All other causes affecting the internal ear	0.4	0.3	----------	0.6	0.4
Combination of different classes of causes	1.4	2.9	2.7	3.0	1.4
Unclassifiable causes	20.5	28.9	32.8	24.7	20.4
Falls and blows	6.2	11.5	17.5	4.8	6.1
Accident	0.9	1.4	1.1	1.8	0.8
All other	13.5	16.0	14.2	18.1	13.4

[1] Includes those for whom the age when hearing was lost was not reported, exclusive of those not reporting the cause of deafness.

[2] Includes those for whom the status of parents as to hearing was not reported.

The statistics presented here are incomplete to some extent, especially in the reporting as to unclassifiable causes where both parents are deaf. In general, there seems to be a greater likelihood of deafness, where one or both parents are deaf, in the case of affections of the middle ear, the percentages where parents are deaf being uniformly in excess of the average, 43.6 per cent; this is notably true of all nonsuppurative affections, and also, though in lesser degree, in the case of certain suppurative affections, as measles, disease of the ear, abscess in the head, and influenza. This is likewise true with respect to affections of the external ear. Less likelihood of deafness seems to exist in such circumstances in affections of the internal ear, except affections of the labyrinth and convulsions affecting the auditory nerve.

Among deaf-mutes having both parents deaf there is a relatively high proportion of deafness of the middle ear in those cases which do not involve suppurative condition. Whooping cough and colds seem to be mainly responsible for this excessive proportion. The proportion for deaf-mutes whose parents are both deaf is also relatively larger for affections of the labyrinth, particularly in the case of mumps, and in the case of convulsions involving the auditory nerve. When only one parent is deaf the proportion is relatively highest for certain suppurative affections of the middle ear, including measles, abscess in the head, diphtheria, pneumonia, and influenza, and for certain nonsuppurative affections, as whooping cough, catarrh, and colds; for malarial fever, involving the labyrinth of the internal ear; and for typhoid fever, involving the auditory nerve.

There are greater proportions in cases where only one parent is deaf than in cases where both parents are deaf, for all the specific disorders causing deafness, except disease of the ear, whooping cough, colds, mumps, and convulsions. Disorders showing higher proportions when one parent is deaf than when both are deaf, but still higher proportions when neither parent is deaf, are scarlet fever, meningitis, brain fever, and paralysis. This situation, though showing somewhat conclusively that deafness from these diseases is not apt to be transmitted, may be accounted for to some extent by incompleteness of the returns as to cases where both parents are deaf.

Affections apparently of least hereditary influence, or affections existing to a relatively large extent when neither parent is deaf, are the two diseases which are by far the leading causes of all acquired deafness—meningitis and scarlet fever. The proportion of deafness from meningitis in cases where neither parent is deaf is over three times as great as in cases where only one is deaf, and over five times as great as in cases where both are deaf. The excess for scarlet fever, while not so large, is notable. Brain fever and paralysis also, as just pointed out, show an excess when neither parent is deaf. It is to be noted, likewise, that when one parent is deaf, and to a slightly less extent when both parents are deaf, there is a much larger proportion of deafness reported as affecting the external ear than is the case when neither parent is deaf.

The figures show that for most specific diseases there are larger proportions in cases where only one parent is deaf than in cases where both parents are deaf, but this may be taken as without much significance. It only shows that there is scarcely greater danger of deafness being transmitted through the operation of some particular affection when both parents are deaf than when one is deaf, because only seldom can the deafness in the two parents be of the same type.

Conclusions may be drawn from these results only with a certain degree of caution, particularly in view of the understatement of the proportion of classifiable causes for cases where both parents are deaf. So far as is evident from what we have just found, hereditary influences are most pronounced in middle ear affections, especially those of nonsuppurative character, and in some of the less important ones of suppurative character; they are apparent also in less degree in most of the affections involving the labyrinth, and in certain ones of lesser importance involving the auditory nerve of the internal ear, and in affections of the external ear.

The detailed tabulation of adventitious deaf-mutes according to the specific causes of deafness reported, correlated with the status as to hearing of parents or other relatives, was extended to show the sex of the deaf-mute reporting and the sex of the relative reported as deaf, but the figures were too small to justify definite conclusions as to the sex through which any specific causes of deafness, or any inherited tendencies, might be transmitted; even less conclusive were the figures showing the sex most liable to be affected by such an inheritance. Sufficient concentration of figures was found, however, in the combinations of causes into groups showing the part of the ear affected to throw some light upon the question.

Table 85 gives the number and the per cent distribution of deaf-mutes, of either sex, according to the general type of deafness reported—that is, according to the part of the ear affected—and further distributed according to whether the father or the mother is deaf.

TABLE 85.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, REPORTING FATHER OR MOTHER DEAF—DISTRIBUTION BY SEX AND PART OF EAR AFFECTED, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

PART OF EAR AFFECTED	BOTH SEXES			MALE			FEMALE		
	Total	Father deaf	Mother deaf	Total	Father deaf	Mother deaf	Total	Father deaf	Mother deaf
	NUMBER [1]								
All causes	349	267	265	176	123	148	173	144	117
Causes affecting the external ear	9	7	6	5	4	5	4	3	1
Causes affecting the middle ear	167	127	126	77	53	67	90	74	59
Causes producing suppurative condition	103	78	72	44	31	36	59	47	36
Causes not producing suppurative condition	62	47	52	31	20	29	31	27	23
All other causes affecting the middle ear	2	2	2	2	2	2	------	------	------
Causes affecting the internal ear	62	47	43	34	23	25	28	24	18
Causes affecting the labyrinth	12	11	8	6	5	5	6	6	3
Causes affecting the auditory nerve	49	35	35	28	18	20	21	17	15
All other causes affecting the internal ear	1	1	------	------	------	------	1	1	------
Combination of different classes of causes	10	9	6	5	4	4	5	5	2
Unclassifiable causes	101	77	84	55	39	47	46	38	37
	PER CENT DISTRIBUTION								
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Causes affecting the external ear	2.6	2.6	2.3	2.8	3.3	3.4	2.3	2.1	0.9
Causes affecting the middle ear	47.9	47.6	47.5	43.8	43.1	45.3	52.0	51.4	50.4
Causes producing suppurative condition	29.5	29.2	27.2	25.0	25.2	24.3	34.1	32.6	30.8
Causes not producing suppurative condition	17.8	17.6	19.6	17.6	16.3	19.6	17.9	18.8	19.7
All other causes affecting the middle ear	0.6	0.7	0.8	1.1	1.6	1.4	------	------	------
Causes affecting the internal ear	17.8	17.6	16.2	19.3	18.7	16.9	16.2	16.7	15.4
Causes affecting the labyrinth	3.4	4.1	3.0	3.4	4.1	3.4	3.5	4.2	2.6
Causes affecting the auditory nerve	14.0	13.1	13.2	15.9	14.6	13.5	12.1	11.8	12.8
All other causes affecting the internal ear	0.3	0.4	------	------	------	------	0.6	0.7	------
Combination of different classes of causes	2.9	3.4	2.3	2.8	3.3	2.7	2.9	3.5	1.7
Unclassifiable causes	28.9	28.8	31.7	31.3	31.7	31.8	26.6	26.4	31.6

[1] Exclusive of those for whom the cause of deafness was not reported. Persons having both parents deaf are counted twice, once with those reporting father deaf and again with those reporting mother deaf; but members of this group are counted only once in the "Total" columns.

It may be readily seen that when the congenitally deaf group is excluded, the figures indicate a somewhat greater danger from inherited susceptibility to middle ear affections than to other diseases, particularly on the part of females. It is further shown that the parental influence is largely confined to the nonsuppurative affections, those cases in which the father or mother, or both, were deaf being about twice as numerous, proportionately, as the total for all adventitious deaf-mutes, without regard to parental deafness. (See Table 84.) It is found, furthermore, that the inherited tendency is rather more frequently derived through the mother; but no final conclusion may be drawn from these figures, because of the probability that there was more complete information in regard to mothers than in regard to fathers, and also because of the large number of unclassifiable causes, which affects all the percentages.

In Table 86 are shown the number and the percentage distribution of deaf-mutes, according to the principal causes of acquired deafness, classified also according to whether or not there are reported deaf brothers or sisters.

TABLE 86.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, REPORTING AS TO HEARING OF BROTHERS OR SISTERS—DISTRIBUTION BY REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	NUMBER			PER CENT DISTRIBUTION		
	Total[1]	Reporting deaf brothers or deaf sisters	Reporting brothers or sisters, none deaf or none reported deaf	Total	Reporting deaf brothers or deaf sisters	Reporting brothers or sisters, none deaf or none reported deaf
Total	17,492	2,171	15,321	100.0	100.0	100.0
Causes affecting the external ear	124	38	86	0.7	1.8	0.6
Causes affecting the middle ear	7,627	1,173	6,454	43.6	54.0	42.1
Causes producing suppurative condition	6,184	874	5,310	35.4	40.3	34.7
Scarlet fever	3,144	387	2,757	18.0	17.8	18.0
Measles	999	157	842	5.7	7.2	5.5
Disease of the ear	408	90	318	2.3	4.1	2.1
Abscess in the head	412	72	340	2.4	3.3	2.2
Diphtheria	289	47	242	1.7	2.2	1.6
Pneumonia	265	33	232	1.5	1.5	1.5
Influenza (grippe)	135	24	111	0.8	1.1	0.7
All other	532	64	468	3.0	2.9	3.1
Causes not producing suppurative condition	1,425	297	1,128	8.1	13.7	7.4
Whooping cough	578	109	469	3.3	5.0	3.1
Catarrh	242	72	170	1.4	3.3	1.1
Colds	238	39	199	1.4	1.8	1.3
All other	367	77	290	2.1	3.5	1.9
All other causes affecting the middle ear	18	2	16	0.1	0.1	0.1
Causes affecting the internal ear	5,934	438	5,496	33.9	20.2	35.9
Causes affecting the labyrinth	342	51	291	2.0	2.3	1.9
Malarial fever and quinine	152	17	135	0.9	0.8	0.9
Mumps	147	25	122	0.8	1.2	0.8
All other	43	9	34	0.2	0.4	0.2
Causes affecting the auditory nerve	5,518	382	5,136	31.5	17.6	33.5
Meningitis	2,964	136	2,828	16.9	6.3	18.5
Brain fever	1,246	104	1,142	7.1	4.8	7.5
Typhoid fever	591	60	531	3.4	2.8	3.5
Paralysis or infantile paralysis	209	16	193	1.2	0.7	1.3
Convulsions	214	26	188	1.2	1.2	1.2
All other	294	40	254	1.7	1.8	1.7
All other causes affecting the internal ear	74	5	69	0.4	0.2	0.5
Combination of different classes of causes	248	25	223	1.4	1.2	1.5
Unclassifiable causes	3,559	497	3,062	20.3	22.9	20.0
Falls and blows	1,070	151	919	6.1	7.0	6.0
Accident	147	20	127	0.8	0.9	0.8
All other	2,342	326	2,016	13.4	15.0	13.2

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[1] Includes those for whom the age when hearing was lost was not reported; exclusive of those for whom the cause of deafness was not reported.

Deaf brothers or sisters seem to be much more likely when the middle ear is concerned than when the internal ear is concerned. In the case of the external ear also there is rather a likelihood of deaf brothers or sisters. For the causes producing deafness in the middle ear, deaf brothers and sisters are found relatively more frequently in the case of nonsuppurative affections. In general, the percentage is greater for those who reported deaf brothers or sisters than for those who did not, in the causes producing suppuration, but scarlet fever and pneumonia are exceptions to the rule; there are no exceptions among the nonsuppurative diseases. Among nonsuppurative affections the greatest difference in the two proportions occurs with catarrh, the ratio here being practically three to one. Among suppurative affections, the greatest difference occurs with disease of the ear. Deaf brothers or sisters are also found more frequently in the case of affections of the labyrinth of the internal ear, except malarial fever and quinine, than in the case of affections involving the auditory nerve. There is a smaller proportion when such relatives exist for all affections of the auditory nerve except convulsions. Meningitis (together with brain fever), the greatest single cause of acquired deafness, apparently has the least connection of all with the existence of deaf brothers or sisters.

In Table 87 are shown for deaf-mutes of both sexes and of each sex separately the number and the percentage distribution according to the causes of acquired deafness grouped to show the part of ear affected, and classified also according to whether a deaf brother or a deaf sister is reported. In this table there is duplication of figures to the extent that some deaf-mutes reported both brothers and sisters who are deaf.

TABLE 87.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED. REPORTING DEAF BROTHERS OR SISTERS—DISTRIBUTION BY SEX AND PART OF EAR AFFECTED, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

PART OF EAR AFFECTED	BOTH SEXES			MALE			FEMALE		
	Total	Reporting deaf brothers	Reporting deaf sisters	Total	Reporting deaf brothers	Reporting deaf sisters	Total	Reporting deaf brothers	Reporting deaf sisters
	NUMBER [1]								
All causes	2,171	1,343	1,267	1,139	724	632	1,032	619	635
Causes affecting the external ear	38	20	22	29	15	16	9	5	6
Causes affecting the middle ear	1,173	717	694	590	363	332	583	354	362
Causes producing suppurative condition	874	520	520	439	264	250	435	256	270
Causes not producing suppurative condition	297	195	174	149	97	82	148	98	92
All other causes affecting the middle ear	2	2	------	2	2	------	------	------	------
Causes affecting the internal ear	438	280	245	249	162	140	189	118	105
Causes affecting the labyrinth	51	35	28	28	20	17	23	15	11
Causes affecting the auditory nerve	382	243	214	219	142	121	163	101	93
All other causes affecting the internal ear	5	2	3	2	------	2	3	2	1
Combination of different classes of causes	25	14	15	14	8	8	11	6	7
Unclassifiable causes	497	312	291	257	176	136	240	136	155

[1] Includes those for whom the age when hearing was lost was not reported; exclusive of those for whom the cause of deafness was not reported. Persons having both deaf brothers and deaf sisters are counted twice, once with those reporting deaf brothers and again with those reporting deaf sisters, but members of this group are counted only once in the "Total" columns.

TABLE 87.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, REPORTING DEAF BROTHERS OR SISTERS—DISTRIBUTION BY SEX AND PART OF EAR AFFECTED, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

PART OF EAR AFFECTED	BOTH SEXES			MALE			FEMALE		
	Total	Reporting deaf brothers	Reporting deaf sisters	Total	Reporting deaf brothers	Reporting deaf sisters	Total	Reporting deaf brothers	Reporting deaf sisters
	PER CENT DISTRIBUTION								
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Causes affecting the external ear	1.8	1.5	1.7	2.5	2.1	2.5	0.9	0.8	0.9
Causes affecting the middle ear	54.0	53.4	54.8	51.8	50.1	52.5	56.5	57.2	57.0
Causes producing suppurative condition	40.3	38.7	41.0	38.5	36.5	39.6	42.2	41.4	42.5
Causes not producing suppurative condition	13.7	14.5	13.7	13.1	13.4	13.0	14.3	15.8	14.5
All other causes affecting the middle ear	0.1	0.1	------	0.2	0.3	------	------	------	------
Causes affecting the internal ear	20.2	20.8	19.3	21.9	22.4	22.2	18.3	19.1	16.5
Causes affecting the labyrinth	2.3	2.6	2.2	2.5	2.8	2.7	2.2	2.4	1.7
Causes affecting the auditory nerve	17.6	18.1	16.9	19.2	19.6	19.1	15.8	16.3	14.6
All other causes affecting the internal ear	0.2	0.1	0.2	0.2	------	0.3	0.3	0.3	0.2
Combination of different classes of causes	1.2	1.0	1.2	1.2	1.1	1.3	1.1	1.0	1.1
Unclassifiable causes	22.9	23.2	23.0	22.6	24.3	21.5	23.3	22.0	24.4

The conclusions which may be drawn from the above table, with due allowance for the number of unclassifiable causes, are similar to those derived from the previous tables; that is, the family tendencies toward diseases producing deafness are more apparent in diseases of the middle ear, and they affect females somewhat more than they do males.

In Table 88 are shown the number and the percentage distribution of deaf-mutes, by causes of acquired deafness, and also according to whether or not deaf children are reported.

Deaf children are more often reported when the middle ear is affected than when the internal ear is affected. When the affection is of the middle ear, the proportion reporting deaf children is 50.6 per cent, and the proportion reporting no deaf children is 43.8 per cent, while the respective proportions when the affection is of the internal ear are 25.9 per cent and 37.8 per cent. The respective proportions when the external ear is affected are 0.9 per cent and 0.8 per cent. The tendencies with respect to both the middle ear and the internal ear are generally uniform—whether the affections in the former case are suppurative or non-suppurative, and in the latter case whether the affections involve the labyrinth or the auditory nerve. Parental deafness from catarrh appears most likely to be transmitted.

TABLE 88.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, REPORTING AS TO HEARING OF CHILDREN—DISTRIBUTION BY REPORTED CAUSE OF DEAFNESS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	NUMBER [1]			PER CENT DISTRIBUTION [2]		
	Total	Reporting deaf children	Reporting children, none deaf or none reported deaf	Total	Reporting deaf children	Reporting children, none deaf or none reported deaf
All causes	5,964	385	5,579	100.0	100.0	100.0
Causes affecting the external ear	43	3	40	0.8	0.9	0.8
Causes affecting the middle ear	2,479	178	2,301	44.2	50.6	43.8
Causes producing suppurative condition	2,113	149	1,964	37.7	42.3	37.4
Scarlet fever	1,370	92	1,278	24.4	26.1	24.3
Measles	248	23	225	4.4	6.5	4.3
Disease of the ear	108	11	97	1.9	3.1	1.8
Abscess in the head	92	7	85	1.6	2.0	1.6
Diphtheria	94	6	88	1.7	1.7	1.7
Pneumonia	38	3	35	0.7	0.9	0.7
Influenza (grippe)	29		29	0.5		0.6
All other	134	7	127	2.4	2.0	2.4
Causes not producing suppurative condition	364	29	335	6.5	8.2	6.4
Whooping cough	146	12	134	2.6	3.4	2.5
Catarrh	54	7	47	1.0	2.0	0.9
Colds	85	7	78	1.5	2.0	1.5
All other	79	3	76	1.4	0.9	1.4
All other causes affecting the middle ear	2		2	(3)		(3)
Causes affecting the internal ear	2,079	91	1,988	37.1	25.9	37.8
Causes affecting the labyrinth	140	7	133	2.5	2.0	2.5
Malarial fever and quinine	74	4	70	1.3	1.1	1.3
Mumps	57	2	55	1.0	0.6	1.0
All other	9	1	8	0.2	0.3	0.2
Causes affecting the auditory nerve	1,925	83	1,842	34.3	23.6	35.1
Meningitis	1,013	42	971	18.1	11.9	18.5
Brain fever	549	27	522	9.8	7.7	9.9
Typhoid fever	219	8	211	3.9	2.3	4.0
Paralysis or infantile paralysis	16	1	15	0.3	0.3	0.3
Convulsions	43	2	41	0.8	0.6	0.8
All other	85	3	82	1.5	0.9	1.6
All other causes affecting the internal ear	14	1	13	0.2	0.3	0.2
Combination of different classes of causes	76	7	69	1.4	2.0	1.3
Unclassifiable causes	930	73	857	16.6	20.7	16.3
Falls and blows	340	19	321	6.1	5.4	6.1
Accident	41	5	36	0.7	1.4	0.7
All other	549	49	500	9.8	13.9	9.5
Cause unknown or not reported	357	33	324			

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[1] Includes those for whom the age when hearing was lost was not reported.
[2] Based upon the number reporting cause of deafness.
[3] Less than one-tenth of 1 per cent.

In Table 89 are given, for the deaf-mutes of either sex reporting deaf children, the number and per cent distribution according to the form of deafness reported; that is, according to which part of the ear is affected, and further classified according to whether a deaf son or a deaf daughter is reported.

TABLE 89.—DEAF-MUTES WHOSE DEAFNESS WAS ACQUIRED, REPORTING DEAF SONS OR DEAF DAUGHTERS—DISTRIBUTION BY SEX AND PART OF EAR AFFECTED, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

PART OF EAR AFFECTED	BOTH SEXES			MALE			FEMALE		
	Total	Reporting deaf sons	Reporting deaf daughters	Total	Reporting deaf sons	Reporting deaf daughters	Total	Reporting deaf sons	Reporting deaf daughters
	NUMBER[1]								
All causes	352	226	214	191	126	109	161	100	105
Causes affecting the external ear	3	3	3	1	1	1	2	2	2
Causes affecting the middle ear	178	117	112	93	67	55	85	50	57
Causes producing suppurative condition	149	98	94	81	58	49	68	40	45
Causes not producing suppurative condition	29	19	18	12	9	6	17	10	12
All other causes affecting the middle ear	------	------	------	------	------	------	------	------	------
Causes affecting the internal ear	91	59	46	61	38	31	30	21	15
Causes affecting the labyrinth	7	5	4	3	3	2	4	2	2
Causes affecting the auditory nerve	83	54	41	57	35	28	26	19	13
All other causes affecting the internal ear	1	------	1	1	------	1	------	------	------
Combination of different classes of causes	7	4	4	2	2	------	5	2	4
Unclassifiable causes	73	43	49	34	18	22	39	25	27
	PER CENT DISTRIBUTION								
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Causes affecting the external ear	0.9	1.3	1.4	0.5	0.8	0.9	1.2	2.0	1.9
Causes affecting the middle ear	50.6	51.8	52.3	48.7	53.2	50.5	52.8	50.0	54.3
Causes producing suppurative condition	42.3	43.4	43.9	42.4	46.0	45.0	42.2	40.0	42.9
Causes not producing suppurative condition	8.2	8.4	8.4	6.3	7.1	5.5	10.6	10.0	11.4
All other causes affecting the middle ear	------	------	------	------	------	------	------	------	------
Causes affecting the internal ear	25.9	26.1	21.5	31.9	30.2	28.4	18.6	21.0	14.3
Causes affecting the labyrinth	2.0	2.2	1.9	1.6	2.4	1.8	2.5	2.0	1.9
Causes affecting the auditory nerve	23.6	23.9	19.2	29.8	27.8	25.7	16.1	19.0	12.4
All other causes affecting the internal ear	0.3	------	0.5	0.5	------	0.9	------	------	------
Combination of different classes of causes	2.0	1.8	1.9	1.0	1.6	------	3.1	2.0	3.8
Unclassifiable causes	20.7	19.0	22.9	17.8	14.3	20.2	24.2	25.0	25.7

[1] Includes those for whom the age when hearing was lost was not reported; exclusive of those for whom the cause of deafness was not reported. Persons having both deaf sons and deaf daughters are counted twice, once with those reporting deaf sons and again with those reporting deaf daughters, but members of this group are counted only once in the "Total" columns.

No pronounced differences between the group reporting a deaf son and the group reporting a deaf daughter are to be found in this table, except that in the cases of middle ear affections males appear to have reported more often a son as deaf, and females a daughter.

The statistics obtained with respect to deaf brothers and sisters and with respect to deaf children bear a rather marked resemblance, on the whole, to the facts with respect to deaf parents. So far as it is possible to generalize, heredity appears to manifest itself most strongly in deaf-mutism in connection with nonsuppurative affections of the middle ear, particularly catarrh, and, to a less extent, colds and whooping cough; in certain minor suppurative affections of the middle ear (including, to a certain extent, measles, influenza, disease of the ear, and abscess in the head); in affections, excepting malarial fever, involving the labyrinth of the internal ear, and possibly including mumps to some extent; in certain affections involving the auditory nerve of the internal ear, particularly convulsions, and possibly one or two others; and in affections of the external ear. Some of these affections are of contagious or infectious character, which may mean, in part, a greater tendency of hereditary character from such diseases, and, in part, a wider spread of such disease in the same family. From these tables it may be seen that the two chief causes of acquired deafness—meningitis and scarlet fever—appear to be relatively little subject to the effects of heredity. Likewise, brain fever, a kindred disorder to meningitis, and paralysis seem only slightly involved.

In attempting to make a determination of the sex through which particular diseases causing deafness are transmitted, it is necessary to proceed with extreme caution, and whatever findings appear must be considered as purely tentative. By combining or correlating the results as to the predominant sex involved in the three classes of relatives considered, parents, brothers or sisters, and children—that is, by ascertaining whether there has been involved a father or a mother, a brother or a sister, or a son or a daughter—for each of the general types of disorders concerned, and with allowance for possible proneness of male and female deaf-mutes to particular diseases, it appears that, so far as any hereditary proclivities are disclosed, affections of the middle ear, both suppurative and nonsuppurative, are more likely to be transmitted through females, with the probable exception of scarlet fever, diphtheria, pneumonia, and influenza; and that causes involving the internal ear, including both diseases of the labyrinth and diseases of the auditory nerve, are more likely to be transmitted through males, with the exception, probably, of paralysis and convulsions. Whether, as a matter of fact, the transmission of deafness from particular diseases is facilitated through one sex rather than through the other, or just how much significance actually attaches to the present findings, we are in little position as yet to determine.

Deafness of hereditary character forms a very considerable portion of all deafness, constituting in itself a serious problem. It is well known that there are certain families deeply affected with this affliction, which may pass from generation to generation, operating not only in a direct line but in indirect or collateral lines as well. The exact nature of hereditary deafness and the processes through which it acts are alike largely hidden from our present knowledge. Perhaps to some extent such deafness may be of particular forms or may manifest itself in particular disorders. Perhaps the main factors involved are, not so much the immediate or direct transmission of deafness itself, but rather the passing on of some special defect or infirmity, especially some anomaly of the auditory organs or of the nervous system, or of a certain predisposition in the existence of an abnormal physical condition affecting in some manner the organs of hearing and sooner or later leading to deafness, or of a tendency to some disease of which deafness is but a result or symptom. The whole question of the connection between deafness and heredity is a large one, and opens up a wide field both to medical science and to eugenics. Doubtless the future will reveal much on the subject.

Akin to, or perhaps rather a part of, the question of the effect of heredity upon deafness is that of the effect thereupon of consanguineous marriages. This effect is revealed in some measure by the extent to which persons with deaf relatives have parents who are cousins.

Table 90 gives for all deaf-mutes reporting as to relationship of parents, including the congenitally deaf, the distribution according to whether parents are first cousins or not, with the number and percentage having one or both parents deaf, the number and percentage having deaf brothers or sisters, and the number and percentage having deaf children.

TABLE 90.—DEAF-MUTES REPORTING AS TO RELATIONSHIP OF PARENTS, CLASSIFIED ACCORDING TO HEARING OF PARENTS, OF BROTHERS OR SISTERS, AND OF CHILDREN, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

HEARING OF PARENTS, BROTHERS OR SISTERS, AND CHILDREN	DEAF-MUTES REPORTING AS TO RELATIONSHIP AND HEARING OF PARENTS		PARENTS FIRST COUSINS			PARENTS NOT FIRST COUSINS		
	Total number	Per cent distribution	Number	Per cent distribution	Per cent of total	Number	Per cent distribution	Per cent of total
Deaf-mutes reporting hearing of parents, total	33, 186	100. 0	1, 247	100. 0	3. 8	31, 939	100. 0	96. 2
Reporting one or both parents deaf	1, 070	3. 2	33	2. 6	3. 1	1, 037	3. 2	96. 9
Neither parent reported deaf	32, 116	96. 8	1, 214	97. 4	3. 8	30, 902	96. 8	96. 2
Deaf-mutes reporting brothers or sisters, total	30, 512	100. 0	1, 204	100. 0	3. 9	29, 308	100. 0	96. 1
Reporting deaf brothers or sisters	7, 635	25. 0	671	55. 7	8. 8	6, 964	23. 8	91. 2
Reporting brothers or sisters, but not deaf	22, 877	75. 0	533	44. 3	2. 3	22, 344	76. 2	97. 7
Deaf-mutes reporting children, total	8, 154	100. 0	290	100. 0	3. 6	7, 864	100. 0	96. 4
Reporting deaf children	669	8. 2	28	9. 7	4. 2	641	8. 2	95. 8
Reporting children, but not deaf	7, 485	91. 8	262	90. 3	3. 5	7, 223	91. 8	96. 5

There is a much larger proportion of deaf brothers or sisters in the case of consanguineous marriages than in the case of nonconsanguineous marriages, or 55.7 per cent, as against 23.8 per cent. For the deaf-mutes reporting children there is a slightly larger proportion of deaf children in the one case than in the other, or 9.7 per cent, as against 8.2 per cent. The proportion, however, having one or both parents deaf is a little greater in the case of nonconsanguineous marriages than in the case of consanguineous marriages, or 3.2 per cent, as against 2.6 per cent. The proportion of deaf-mutes having deaf brothers or sisters and also having parents who are cousins is almost four times as great as the proportion for those not having deaf brothers or sisters, or 8.8 per cent as against 2.3 per cent. The corresponding proportions for deaf children are 4.2 per cent and 3.5 per cent. The corresponding proportions reporting a deaf parent are 3.1 per cent and 3.8 per cent,[47] a reversal of the previous order. On the surface, deafness, or the tendency to deafness, appears to have been inherited to a greater extent from consanguineous parents when these parents were not themselves deaf. But it is probable that this inconsistency is partly explained by incomplete reporting as to the deafness of parents. The slight difference in the percentages for deafness in children may perhaps be explained on like grounds.[48]

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[47] Statistics not here included show that among those with both parents deaf the proportion having parents first cousins is 1 per cent, or 7 out of 700.

[48] Of children of consanguineous marriages, both partners being deaf, the proportion likewise deaf is 30 per cent. E. A. Fay, Marriages of the Deaf, 1898.

Table 91 gives, for the several race and nativity groups, the number and the proportion of deaf-mutes reporting parents to be first cousins.

TABLE 91.—DEAF-MUTES BY RACE AND NATIVITY, CLASSIFIED ACCORDING TO RELATIONSHIP OF PARENTS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

RACE AND NATIVITY	DEAF-MUTES REPORTING AS TO RELATIONSHIP OF PARENTS		PARENTS FIRST COUSINS			PARENTS NOT FIRST COUSINS	
	Total number	Per cent distribution	Number	Per cent distribution	Per cent of total	Number	Per cent distribution
All classes	33,299	100.0	1,271	100.0	3.8	32,028	100.0
White	31,813	95.5	1,221	96.1	3.8	30,592	95.5
Native	29,319	88.0	1,120	88.1	3.8	28,199	88.0
Foreign-born	2,494	7.5	101	7.9	4.0	2,393	7.5
Negro	1,379	4.1	47	3.7	3.4	1,332	4.2
Other colored	107	0.3	3	0.2	2.8	104	0.3

The proportion reporting parents to be first cousins, for deaf-mutes as a whole, is 3.8 per cent [49]—a proportion probably much in excess of that for the general population.[50] The proportion is highest for foreign-born whites, or 4 per cent. The proportion for native whites is 3.8 per cent, for negroes 3.4 per cent, and for "Other colored," 2.8 per cent. The reasons for these differences among the several groups are not entirely clear. The high percentage for foreign-born whites may be attributed in part to their tendency toward urban life, with consequent greater opportunity to marry into their particular national group or family group.

In Table 92 are given the number and the percentage distribution of deaf-mutes, by age at which hearing was lost, according to the relationship of parents.

When parents are first cousins, the proportion for congenital deafness is 61.2 per cent, and the proportion for adventitious deafness is 38.8 per cent. When the parents are not first cousins, the proportions are almost exactly reversed, or 37.3 per cent for congenital deafness and 62.7 per cent for adventitious. This relation is practically maintained between the two groups in all the different ages for the occurrence of deafness. It is also to be observed that the percentage of congenital deafness in which consanguineous marriages are involved is 6.1 per cent, whereas, as we have just seen (Table 90), the proportion of all deafness in which such marriages are involved is only 3.8 per cent. From these considerations there is decided evidence of a connection between congenital deafness and the deafness of children of consanguineous marriages, both doubtless involving hereditary factors in greater or less degree. Further suggestion of this is found in Table 93, showing the correlation of congenital deafness with relationship of parents. The results here may be somewhat affected by the smallness of the figures.

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[49] In schools for the deaf the proportion of pupils having parents who are cousins ranges from 3 per cent to 9 per cent, and occasionally as high as 19 per cent.

[50] The proportion of marriages in the general population which are consanguineous does not average over 1 per cent. It varies from 0.5 per cent to 5 per cent, the latter proportion being found only in isolated sections. If consanguineous marriages include those of both first and second cousins, the proportion is probably between 2 per cent and 2.5 per cent. Consanguineous marriages are relatively decreasing in the United States. See G. B. L. Arner, Consanguineous Marriages, 1908. See also Reference Handbook of the Medical Sciences, ed. 1923, iii., p. 432.

TABLE 92.—DEAF-MUTES BY AGE WHEN HEARING WAS LOST, CLASSIFIED ACCORDING TO RELATIONSHIP OF PARENTS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

AGE WHEN HEARING WAS LOST	NUMBER				PER CENT DISTRIBUTION			
	Total	Parents first cousins	Parents not first cousins	Not reporting as to relationship of parents	Total	Parents first cousins	Parents not first cousins	Not reporting as to relationship of parents
All ages	35,026	1,271	32,028	1,727	100.0	100.0	100.0	100.0
Deafness congenital	13,513	778	11,954	781	38.6	61.2	37.3	45.2
Deafness acquired [1]	21,513	493	20,074	946	61.4	38.8	62.7	54.8
At age of—								
Less than 10 years	20,595	465	19,427	703	58.8	36.6	60.7	40.7
Less than 1 year	2,802	63	2,690	49	8.0	5.0	8.4	2.8
1 year	3,973	101	3,784	88	11.3	7.9	11.8	5.1
2 to 4 years	9,226	213	8,755	258	26.3	16.8	27.3	14.9
5 to 9 years	3,516	64	3,328	124	10.0	5.0	10.4	7.2
Infancy and childhood [2]	1,078	24	870	184	3.1	1.9	2.7	10.7
10 years or over	250	6	232	12	0.7	0.5	0.7	0.7
At age not reported	668	22	415	231	1.9	1.7	1.3	13.4

[1] Includes those for whom the age when hearing was lost was not reported.

[2] Exact age not reported.

TABLE 93.—DEAF-MUTES REPORTED AS CONGENITALLY DEAF OR OTHERWISE, CLASSIFIED ACCORDING TO RELATIONSHIP AND DEAFNESS OF PARENTS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

	DEAF-MUTES REPORTING AS TO RELATIONSHIP AND HEARING OF PARENTS			PARENTS FIRST COUSINS			PARENTS NOT FIRST COUSINS		
	Total	One or both parents deaf		Total	One or both parents deaf		Total	One or both parents deaf	
		Number	Per cent of total		Number	Per cent of total		Number	Per cent of total
Total	33,186	1,070	3.2	1,247	33	2.6	31,939	1,037	3.2
Reported as congenitally deaf	12,668	651	5.1	758	20	2.6	11,910	631	5.3
Not reported as congenitally deaf	20,518	419	2.0	489	13	2.7	20,029	406	2.0

In Table 94 are shown the number and the percentage distribution of deaf-mutes, and of males and females separately, for the principal causes of acquired deafness according to relationship of parents.

TABLE 94.—DEAF-MUTES BY SEX AND REPORTED CAUSE OF DEAFNESS, CLASSIFIED ACCORDING TO RELATIONSHIP OF PARENTS, FOR THE UNITED STATES: 1920

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	BOTH SEXES			MALE			FEMALE		
	Total [1]	Parents first cousins	Parents not first cousins	Total [1]	Parents first cousins	Parents not first cousins	Total [1]	Parents first cousins	Parents not first cousins
	NUMBER								
All causes	35,026	1,271	32,028	19,166	654	17,582	15,860	617	14,446
Causes affecting the external ear	132	1	128	73	1	70	59	------	58
Causes affecting the middle ear	8,290	207	7,874	4,374	111	4,165	3,916	96	3,709
Causes producing suppurative condition	6,682	165	6,346	3,567	90	3,401	3,115	75	2,945
Scarlet fever	3,346	58	3,186	1,809	30	1,735	1,537	28	1,451
Measles	1,083	27	1,036	552	20	524	531	7	512
Disease of the ear	464	18	441	249	8	239	215	10	202
Abscess in the head	446	26	415	226	14	209	220	12	206
Diphtheria	319	13	297	166	7	156	153	6	141
Pneumonia	295	6	278	172	4	165	123	2	113
Influenza (grippe)	151	3	143	80	2	75	71	1	68
All other	578	14	550	313	5	298	265	9	252
Causes not producing suppurative condition	1,589	41	1,510	796	20	754	793	21	756
Whooping cough	636	17	603	298	6	280	338	11	323
Catarrh	273	3	265	143	------	140	130	3	125
Colds	263	5	250	141	4	133	122	1	117
All other	417	16	392	214	10	201	203	6	191
All other causes affecting the middle ear	19	1	18	11	1	10	8	------	8
Causes affecting the internal ear	6,429	100	6,196	3,815	58	3,669	2,614	42	2,527
Causes affecting the labyrinth	372	6	356	214	4	202	158	2	154
Malarial fever and quinine	162	4	155	90	2	85	72	2	70
Mumps	159	2	153	100	2	96	59	------	57
All other	51	------	48	24	------	21	27	------	27
Causes affecting the auditory nerve	5,976	92	5,762	3,551	52	3,420	2,425	40	2,342
Meningitis	3,237	33	3,143	1,913	25	1,849	1,324	8	1,294
Brain fever	1,314	18	1,269	848	11	819	466	7	450
Typhoid fever	642	20	602	365	7	343	277	13	259
Paralysis or infantile paralysis	236	4	229	120	2	116	116	2	113
Convulsions	230	9	217	119	1	116	111	8	101
All other	317	8	302	186	6	177	131	2	125
All other causes affecting the internal ear	81	2	78	50	2	47	31	------	31
Combination of different classes of causes	268	6	257	166	3	158	102	3	99
Unclassifiable causes	17,418	878	15,606	9,453	452	8,503	7,965	426	7,103
Congenital	13,513	776	11,958	7,282	392	6,467	6,231	384	5,491
Falls and blows	1,177	30	1,111	662	19	622	515	11	489
Accident	162	3	150	98	2	88	64	1	62
All other	2,566	69	2,387	1,411	39	1,326	1,155	30	1,061
Cause unknown or not reported	2,489	79	1,967	1,285	29	1,017	1,204	50	950

See footnotes at end of table.

TABLE 94.—DEAF-MUTES BY SEX AND REPORTED CAUSE OF DEAFNESS, CLASSIFIED ACCORDING TO RELATIONSHIP OF PARENTS, FOR THE UNITED STATES: 1920—Continued

[Figures include only deaf-mutes returning special schedules]

REPORTED CAUSE OF DEAFNESS	BOTH SEXES			MALE			FEMALE		
	Total [1]	Parents first cousins	Parents not first cousins	Total [1]	Parents first cousins	Parents not first cousins	Total [1]	Parents first cousins	Parents not first cousins
	PER CENT DISTRIBUTION [2]								
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Causes affecting the external ear	0.7	0.2	0.7	0.7	0.4	0.7	0.7	------	0.7
Causes affecting the middle ear	43.6	49.8	43.5	41.3	47.6	41.2	46.5	52.5	46.3
Causes producing suppurative condition	35.1	39.7	35.1	33.7	38.6	33.7	37.0	41.0	36.8
Scarlet fever	17.6	13.9	17.6	17.1	12.9	17.2	18.2	15.3	18.1
Measles	5.7	6.5	5.7	5.2	8.6	5.2	6.3	3.8	6.4
Disease of the ear	2.4	4.3	2.4	2.3	3.4	2.4	2.6	5.5	2.5
Abscess in the head	2.3	6.3	2.3	2.1	6.0	2.1	2.6	6.6	2.6
Diphtheria	1.7	3.1	1.6	1.6	3.0	1.5	1.8	3.3	1.8
Pneumonia	1.6	1.4	1.5	1.6	1.7	1.6	1.5	1.1	1.4
Influenza (grippe)	0.8	0.7	0.8	0.8	0.9	0.7	0.8	0.5	0.8
All other	3.0	3.4	3.0	3.0	2.1	3.0	3.1	4.9	3.1
Causes not producing suppurative condition	8.4	9.9	8.3	7.5	8.6	7.5	9.4	11.5	9.4
Whooping cough	3.3	4.1	3.3	2.8	2.6	2.8	4.0	6.0	4.0
Catarrh	1.4	0.7	1.5	1.3	------	1.4	1.5	1.6	1.6
Colds	1.4	1.2	1.4	1.3	1.7	1.3	1.4	0.5	1.5
All other	2.2	3.8	2.2	2.0	4.3	2.0	2.4	3.3	2.4
All other causes affecting the middle ear	0.1	0.2	0.1	0.1	0.4	0.1	0.1	------	0.1
Causes affecting the internal ear	33.8	24.0	34.2	36.0	24.9	36.3	31.0	23.0	31.6
Causes affecting the labyrinth	2.0	1.4	2.0	2.0	1.7	2.0	1.9	1.1	1.9
Malarial fever and quinine	0.9	1.0	0.9	0.8	0.9	0.8	0.9	1.1	0.9
Mumps	0.8	0.5	0.8	0.9	0.9	1.0	0.7	------	0.7
All other	0.3	------	0.3	0.2	------	0.2	0.3	------	0.3
Causes affecting the auditory nerve	31.4	22.1	31.8	33.5	22.3	33.9	28.8	21.9	29.3
Meningitis	17.0	7.9	17.4	18.0	10.7	18.3	15.7	4.4	16.2
Brain fever	6.9	4.3	7.0	8.0	4.7	8.1	5.5	3.8	5.6
Typhoid fever	3.4	4.8	3.3	3.4	3.0	3.4	3.3	7.1	3.2
Paralysis or infantile paralysis	1.2	1.0	1.3	1.1	0.9	1.1	1.4	1.1	1.4
Convulsions	1.2	2.2	1.2	1.1	0.4	1.1	1.3	4.4	1.3
All other	1.7	1.9	1.7	1.8	2.6	1.8	1.6	1.1	1.6
All other causes affecting the internal ear	0.4	0.5	0.4	0.5	0.9	0.5	0.4	------	0.4
Combination of different classes of causes	1.4	1.4	1.4	1.6	1.3	1.6	1.2	1.6	1.2
Unclassifiable causes	20.5	24.5	20.2	20.5	25.8	20.2	20.6	23.0	20.1
Falls and blows	6.2	7.2	6.1	6.2	8.2	6.2	6.1	6.0	6.1
Accident	0.9	0.7	0.8	0.9	0.9	0.9	0.8	0.5	0.8
All other	13.5	16.6	13.2	13.3	16.7	13.1	13.7	16.4	13.3

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[1] Includes those for whom the relationship of parents was not reported.

[2] Based upon the number reporting the cause of deafness, including those for whom the age when hearing was lost was not reported, but exclusive of those congenitally deaf.

Consanguineous marriages, so far as deaf offspring are involved, seem on the whole to affect the middle ear to a greater extent and the internal and the external ear to a less extent than do nonconsanguineous marriages, the respective proportions for the middle ear being 49.8 per cent and 43.5 per cent, for the internal ear 24 per cent and 34.2 per cent, and for the external ear 0.2 per cent and 0.7 per cent. Particular disorders which show larger proportions in the case of parents who are cousins than in the case where parents are not cousins are measles, disease of the ear, abscess in the head, diphtheria, whooping cough, malarial fever, typhoid fever, convulsions, and falls and blows. Among males added disorders are pneumonia, influenza, and colds, but with the omission of whooping cough, typhoid fever, and convulsions. Among females there are no added disorders, but measles and falls and blows are not included. The most pronounced excess when parents are related is for abscess in the head, diphtheria, convulsions, and disease of the ear. It is gratifying once more to discover that the two dread causes of deafness, scarlet fever and meningitis, are relatively little influenced by consanguineous marriages.

On the whole, there seems to be but limited correspondence in causes between the hereditary predisposition to deaf-mutism where there are deaf parents (see Table 84) and where parents are cousins. Parallel tendencies, so far as they appear, are most in evidence with respect to pneumonia, measles, disease of the ear, scarlet fever, brain fever, and convulsions.

The foregoing findings as to the connection of deafness and consanguineous marriages are specific instances of a law of wide application, namely, that a given strain or defect is much more likely to appear in the offspring of parents who are related, both possibly possessing the same latent tendency. In the blood relationship of parents are intensified the possibilities of the perpetuation of the characteristics of a parent or of a family predisposition. As with the relation of heredity in general to deafness, much remains yet to be discovered, through study of individual cases, concerning the effects of consanguineous marriages in the matter of deafness.

BLIND DEAF-MUTES

According to the special schedules returned, there are 169 blind deaf-mutes in the United States.[51] Figures for these are included in the preceding tables, but separate presentation is also given in Table 100 (p. 158), which shows their distribution in detail.

In the East North Central division there are 50 blind deaf-mutes; in the Middle Atlantic, 30; in the West North Central, 26; in the South Atlantic, 25; in the West South Central, 13; in the New England, 12; in the East South Central, 9; in the Pacific, 3; and in the Mountain, 1. In New York there are 20; in Wisconsin, 16; in Ohio and Illinois each, 13; and in Missouri, 11. Of the blind deaf-mutes, 79 are male and 90 female. There are 159 white and 10 colored. Of the whites, 150 are native; of the colored, 9 are negro. By age, 45 are under 25; 58, from 25 to 49; 43, from 50 to 64; and 21, over 64. With 33 blindness was congenital, and with 88 deafness. Only 7 lost their hearing after 9 years of age, while 74 lost their sight after that age. In fact, most of the cases are of deaf-mutes who later became blind, their blindness having no relation to their deafness.

The main causes of deafness of the blind deaf-mutes, apart from congenital deafness, are meningitis and scarlet fever. With the exception of these two diseases, and of measles, brain fever, catarrh, abscess in the head, and typhoid fever, no specific cause is represented more than once. The noncongenital causes of blindness are more varied. Meningitis, cataract, and scarlet fever are the leading ones. With the exception of these, and of accidents, brain fever, measles, catarrh, glaucoma, corneal ulcer, typhoid fever, and epilepsy, no specific cause is found in more than a single instance. In no case were both parents blind deaf-mutes, though in one case both parents were deaf, in two cases one parent was blind, and in three cases one parent was deaf—the other parent in all these cases being free from blindness and from deafness. Of 159 persons reporting brothers or sisters, there are 23 with both blind and deaf brothers or sisters, 23 with only deaf brothers or sisters, and 6 with only blind brothers or sisters. Of 21 persons reporting children there are 2 reporting deaf children. In 22 cases parents were first cousins. Among males only 12 blind deaf-mutes had ever been married, and among females only 9.

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[51] It is possible that the full number in the United States is somewhat larger. No accurate statement on the subject can be given. Many of the original returns of enumerators have proved erroneous.

DETAILED TABLES

TABLE 95.—DEAF-MUTES FOR WHOM SPECIAL SCHEDULES WERE RETURNED, STATES:

DIVISION AND STATE	ALL CLASSES			WHITE					
				Total			Native		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
UNITED STATES	35, 026	19, 166	15, 860	33, 427	18, 317	15, 110	30, 805	16, 825	13, 980
GEOGRAPHIC DIVISIONS:									
New England	2, 655	1, 447	1, 208	2, 646	1, 441	1, 205	2, 266	1, 220	1, 046
Middle Atlantic	6, 952	3, 825	3, 127	6, 859	3, 770	3, 089	6, 070	3, 337	2, 733
East North Central	8, 874	4, 936	3, 938	8, 747	4, 868	3, 879	7, 951	4, 414	3, 537
West North Central	4, 638	2, 546	2, 092	4, 552	2, 494	2, 058	4, 221	2, 312	1, 909
South Atlantic	4, 102	2, 230	1, 872	3, 408	1, 873	1, 535	3, 345	1, 829	1, 516
East South Central	2, 605	1, 365	1, 240	2, 298	1, 198	1, 100	2, 283	1, 191	1, 092
West South Central	2, 680	1, 421	1, 259	2, 438	1, 297	1, 141	2, 408	1, 280	1, 128
Mountain	924	519	405	905	508	397	843	462	381
Pacific	1, 596	877	719	1, 574	868	706	1, 418	780	638
NEW ENGLAND:									
Maine	354	209	145	354	209	145	309	182	127
New Hampshire	131	72	59	130	71	59	106	55	51
Vermont	124	59	65	124	59	65	109	48	61
Massachusetts	1, 377	738	639	1, 371	734	637	1, 168	620	548
Rhode Island	166	83	83	165	83	82	131	68	63
Connecticut	503	286	217	502	285	217	443	247	196
MIDDLE ATLANTIC:									
New York	3, 379	1, 861	1, 518	3, 342	1, 840	1, 502	2, 827	1, 563	1, 264
New Jersey	751	432	319	734	423	311	655	379	276
Pennsylvania	2, 822	1, 532	1, 290	2, 783	1, 507	1, 276	2, 588	1, 395	1, 193
EAST NORTH CENTRAL:									
Ohio	2, 161	1, 285	876	2, 107	1, 252	855	1, 975	1, 176	799
Indiana	1, 266	646	620	1, 245	638	607	1, 212	620	592
Illinois	2, 517	1, 404	1, 113	2, 486	1, 389	1, 097	2, 259	1, 260	999
Michigan	1, 536	839	697	1, 520	832	688	1, 310	711	599
Wisconsin	1, 394	762	632	1, 389	757	632	1, 195	647	548
WEST NORTH CENTRAL:									
Minnesota	846	470	376	839	467	372	714	396	318
Iowa	856	446	410	855	445	410	810	418	392
Missouri	1, 310	726	584	1, 269	702	567	1, 237	685	552
North Dakota	207	98	109	204	96	108	181	88	93
South Dakota	231	131	100	217	120	97	181	100	81
Nebraska	472	287	185	466	283	183	424	257	167
Kansas	716	388	328	702	381	321	674	368	306
SOUTH ATLANTIC:									
Delaware	27	14	13	24	13	11	23	12	11
Maryland	524	289	235	485	270	215	458	251	207
District of Columbia	259	152	107	245	143	102	228	131	97
Virginia	752	385	367	563	282	281	558	279	279
West Virginia	485	261	224	476	256	220	469	252	217
North Carolina	841	482	359	643	377	266	642	376	266
South Carolina	277	140	137	204	106	98	204	106	98
Georgia	675	361	314	552	305	247	550	304	246
Florida	262	146	116	216	121	95	213	118	95
EAST SOUTH CENTRAL:									
Kentucky	949	491	458	900	465	435	892	463	429
Tennessee	765	408	357	702	372	330	698	370	328
Alabama	548	282	266	442	229	213	439	226	213
Mississippi	343	184	159	254	132	122	254	132	122
WEST SOUTH CENTRAL:									
Arkansas	550	286	264	508	264	244	506	262	244
Louisiana	523	274	249	455	240	215	449	236	213
Oklahoma	365	201	164	342	190	152	338	189	149
Texas	1, 242	660	582	1, 133	603	530	1, 115	593	522
MOUNTAIN:									
Montana	128	79	49	121	73	48	110	64	46
Idaho	102	50	52	101	49	52	94	45	49
Wyoming	18	15	3	18	15	3	16	13	3
Colorado	299	170	129	294	167	127	276	155	121
New Mexico	102	52	50	98	52	46	90	45	45
Arizona	62	38	24	61	37	24	56	33	23
Utah	200	108	92	199	108	91	188	100	88
Nevada	13	7	6	13	7	6	13	7	6
PACIFIC:									
Washington	471	255	216	463	252	211	428	234	194
Oregon	265	142	123	263	142	121	239	128	111
California	860	480	380	848	474	374	751	418	333

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[1] Includes for the United States 96 Indians and 16 "Other colored," chiefly Chinese and Japanese.

CLASSIFIED ACCORDING TO RACE, NATIVITY, AND SEX, BY DIVISIONS AND 1920

DIVISION AND STATE	WHITE—con.			COLORED								
	Foreign-born			Total			Negro			Other colored [1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
UNITED STATES	2,622	1,492	1,130	1,599	849	750	1,487	786	701	112	63	49
GEOGRAPHIC DIVISIONS:												
New England	380	221	159	9	6	3	9	6	3	------	------	------
Middle Atlantic	789	433	356	93	55	38	87	52	35	6	3	3
East North Central	796	454	342	127	68	59	116	60	56	11	8	3
West North Central	331	182	149	86	52	34	59	35	24	27	17	10
South Atlantic	63	44	19	694	357	337	688	352	336	6	5	1
East South Central	15	7	8	307	167	140	298	162	136	9	5	4
West South Central	30	17	13	242	124	118	222	115	107	20	9	11
Mountain	62	46	16	19	11	8	1	1	------	18	10	8
Pacific	156	88	68	22	9	13	7	3	4	15	6	9
NEW ENGLAND:												
Maine	45	27	18	------	------	------	------	------	------	------	------	------
New Hampshire	24	16	8	1	1	------	1	1	------	------	------	------
Vermont	15	11	4	------	------	------	------	------	------	------	------	------
Massachusetts	203	114	89	6	4	2	6	4	2	------	------	------
Rhode Island	34	15	19	1	------	1	1	------	1	------	------	------
Connecticut	59	38	21	1	1	------	1	1	------	------	------	------
MIDDLE ATLANTIC:												
New York	515	277	238	37	21	16	34	20	14	3	1	2
New Jersey	79	44	35	17	9	8	17	9	8	------	------	------
Pennsylvania	195	112	83	39	25	14	36	23	13	3	2	1
EAST NORTH CENTRAL:												
Ohio	132	76	56	54	33	21	52	32	20	2	1	1
Indiana	33	18	15	21	8	13	21	8	13	------	------	------
Illinois	227	129	98	31	15	16	31	15	16	------	------	------
Michigan	210	121	89	16	7	9	10	3	7	6	4	2
Wisconsin	194	110	84	5	5	------	2	2	------	3	3	------
WEST NORTH CENTRAL:												
Minnesota	125	71	54	7	3	4	1	1	------	6	2	4
Iowa	45	27	18	1	1	------	1	1	------	------	------	------
Missouri	32	17	15	41	24	17	40	24	16	1	------	1
North Dakota	23	8	15	3	2	1	------	------	------	3	2	1
South Dakota	36	20	16	14	11	3	------	------	------	14	11	3
Nebraska	42	26	16	6	4	2	3	2	1	3	2	1
Kansas	28	13	15	14	7	7	14	7	7	------	------	------
SOUTH ATLANTIC:												
Delaware	1	1	------	3	1	2	3	1	2	------	------	------
Maryland	27	19	8	39	19	20	39	19	20	------	------	------
District of Columbia	17	12	5	14	9	5	14	9	5	------	------	------
Virginia	5	3	2	189	103	86	189	103	86	------	------	------
West Virginia	7	4	3	9	5	4	9	5	4	------	------	------
North Carolina	1	1	------	198	105	93	193	101	92	5	4	1
South Carolina	------	------	------	73	34	39	72	33	39	1	1	------
Georgia	2	1	1	123	56	67	123	56	67	------	------	------
Florida	3	3	------	46	25	21	46	25	21	------	------	------
EAST SOUTH CENTRAL:												
Kentucky	8	2	6	49	26	23	48	26	22	1	------	1
Tennessee	4	2	2	63	36	27	62	35	27	1	1	------
Alabama	3	3	------	106	53	53	102	51	51	4	2	2
Mississippi	------	------	------	89	52	37	86	50	36	3	2	1
WEST SOUTH CENTRAL:												
Arkansas	2	2	------	42	22	20	40	22	18	2	------	2
Louisiana	6	4	2	68	34	34	66	32	34	2	2	------
Oklahoma	4	1	3	23	11	12	8	5	3	15	6	9
Texas	18	10	8	109	57	52	108	56	52	1	1	------
MOUNTAIN:												
Montana	11	9	2	7	6	1	------	------	------	7	6	1
Idaho	7	4	3	1	1	------	------	------	------	1	1	------
Wyoming	2	2	------	------	------	------	------	------	------	------	------	------
Colorado	18	12	6	5	3	2	1	1	------	4	2	2
New Mexico	8	7	1	4	------	4	------	------	------	4	------	4
Arizona	5	4	1	1	1	------	------	------	------	1	1	------
Utah	11	8	3	1	------	1	------	------	------	1	------	1
Nevada	------	------	------	------	------	------	------	------	------	------	------	------
PACIFIC:												
Washington	35	18	17	8	3	5	2	------	2	6	3	3
Oregon	24	14	10	2	------	2	------	------	------	2	------	2
California	97	56	41	12	6	6	5	3	2	7	3	4

TABLE 96.—DEAF-MUTES FOR WHOM SPECIAL SCHEDULES WERE RETURNED, AND STATES:

DIVISION AND STATE	MALE							
	Total	Under 15 years of age	15 years of age and over[1]					
			Total	Single	Married	Widowed	Divorced	Marital condition not reported
UNITED STATES	19, 166	4, 860	14, 306	8,494	5, 075	359	135	243
GEOGRAPHIC DIVISIONS:								
New England	1, 447	384	1, 063	648	351	35	10	19
Middle Atlantic	3, 825	1, 032	2, 793	1, 673	976	66	11	67
East North Central	4, 936	1, 131	3, 805	2, 052	1, 535	115	44	59
West North Central	2, 546	524	2, 022	1, 175	750	46	23	28
South Atlantic	2, 230	647	1, 583	1, 050	477	27	9	20
East South Central	1, 365	390	975	642	285	21	4	23
West South Central	1, 421	381	1, 040	652	332	24	18	14
Mountain	519	141	378	243	119	3	7	6
Pacific	877	230	647	359	250	22	9	7
NEW ENGLAND:								
Maine	209	47	162	89	59	6	4	4
New Hampshire	72	5	67	38	24	5	--------	--------
Vermont	59	14	45	30	10	1	3	1
Massachusetts	738	211	527	314	183	19	2	9
Rhode Island	83	17	66	50	13	1	--------	2
Connecticut	286	90	196	127	62	3	1	3
MIDDLE ATLANTIC:								
New York	1, 861	456	1, 405	830	511	31	5	28
New Jersey	432	143	289	185	92	6	1	5
Pennsylvania	1, 532	433	1, 099	658	373	29	5	34
EAST NORTH CENTRAL:								
Ohio	1, 285	226	1, 059	556	436	34	15	18
Indiana	646	102	544	226	276	18	9	15
Illinois	1, 404	386	1, 018	572	390	28	12	16
Michigan	839	225	614	351	238	14	4	7
Wisconsin	762	192	570	347	195	21	4	3
WEST NORTH CENTRAL:								
Minnesota	470	102	368	229	121	7	4	7
Iowa	446	77	369	202	144	10	7	6
Missouri	726	133	593	322	245	11	9	6
North Dakota	98	37	61	50	11	--------	--------	--------
South Dakota	131	25	106	69	32	3	1	1
Nebraska	287	78	209	134	67	5	--------	3
Kansas	388	72	316	169	130	10	2	5
SOUTH ATLANTIC:								
Delaware	14	--------	14	8	6	--------	--------	--------
Maryland	289	73	216	127	85	2	1	1
District of Columbia	152	21	131	100	29	--------	2	--------
Virginia	385	103	282	197	70	9	3	3
West Virginia	261	90	171	114	51	1	--------	5
North Carolina	482	152	330	232	85	5	--------	8
South Carolina	140	24	116	75	37	4	--------	--------
Georgia	361	118	243	141	92	5	2	3
Florida	146	66	80	56	22	1	1	--------
EAST SOUTH CENTRAL:								
Kentucky	491	133	358	241	100	10	2	5
Tennessee	408	120	288	169	102	4	1	12
Alabama	282	75	207	148	51	3	1	4
Mississippi	184	62	122	84	32	4	--------	2
WEST SOUTH CENTRAL:								
Arkansas	286	94	192	117	66	5	2	2
Louisiana	274	75	199	139	51	4	1	4
Oklahoma	201	33	168	91	69	2	5	1
Texas	660	179	481	305	146	13	10	7
MOUNTAIN:								
Montana	79	19	60	44	15	--------	--------	1
Idaho	50	25	25	17	8	--------	--------	--------
Wyoming	15	3	12	6	6	--------	--------	--------
Colorado	170	37	133	69	53	2	5	4
New Mexico	52	14	38	28	8	--------	2	--------
Arizona	38	13	25	20	4	--------	--------	1
Utah	108	29	79	55	23	1	--------	--------
Nevada	7	1	6	4	2	--------	--------	--------
PACIFIC:								
Washington	255	75	180	115	59	3	1	2
Oregon	142	33	109	59	45	2	3	--------
California	480	122	358	185	146	17	5	5

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[1] Includes 178 males whose age was not reported.

CLASSIFIED ACCORDING TO SEX AND MARITAL CONDITION; BY DIVISIONS 1920

DIVISION AND STATE	FEMALE							
	Total	Under 15 years of age	15 years of age and over[2]					
			Total	Single	Married	Widowed	Divorced	Marital condition not reported
UNITED STATES	15,860	4,255	11,605	6,183	4,486	594	113	229
GEOGRAPHIC DIVISIONS:								
New England	1,208	370	838	467	287	63	8	13
Middle Atlantic	3,127	834	2,293	1,224	883	128	8	50
East North Central	3,938	975	2,963	1,333	1,398	158	34	40
West North Central	2,092	465	1,627	837	669	73	15	33
South Atlantic	1,872	558	1,314	858	381	32	12	31
East South Central	1,240	359	881	568	229	46	6	32
West South Central	1,259	378	881	518	280	45	17	21
Mountain	405	127	278	154	103	15	2	4
Pacific	719	189	530	224	256	34	11	5
NEW ENGLAND:								
Maine	145	40	105	55	43	6	--------	1
New Hampshire	59	9	50	27	19	1	3	--------
Vermont	65	27	38	21	9	5	2	1
Massachusetts	639	210	429	233	151	35	2	8
Rhode Island	83	20	63	42	16	4	--------	1
Connecticut	217	64	153	89	49	12	1	2
MIDDLE ATLANTIC:								
New York	1,518	381	1,137	617	437	64	3	16
New Jersey	319	108	211	101	91	13	1	5
Pennsylvania	1,290	345	945	506	355	51	4	29
EAST NORTH CENTRAL:								
Ohio	876	163	713	284	369	40	5	15
Indiana	620	117	503	205	256	28	9	5
Illinois	1,113	333	780	381	346	37	8	8
Michigan	697	196	501	219	240	31	7	4
Wisconsin	632	166	466	244	187	22	5	8
WEST NORTH CENTRAL:								
Minnesota	376	88	288	164	110	6	3	5
Iowa	410	106	304	148	131	18	3	4
Missouri	584	101	483	235	209	22	7	10
North Dakota	109	35	74	61	10	2	--------	1
South Dakota	100	25	75	44	27	1	--------	3
Nebraska	185	44	141	73	58	6	1	3
Kansas	328	66	262	112	124	18	1	7
SOUTH ATLANTIC:								
Delaware	13	1	12	6	6	--------	--------	--------
Maryland	235	81	154	73	71	7	2	1
District of Columbia	107	15	92	69	21	--------	--------	2
Virginia	367	98	269	190	62	8	4	5
West Virginia	224	63	161	92	51	3	2	13
North Carolina	359	103	256	177	69	4	1	5
South Carolina	137	27	110	76	32	1	--------	1
Georgia	314	120	194	128	56	5	2	3
Florida	116	50	66	47	13	4	1	1
EAST SOUTH CENTRAL:								
Kentucky	458	128	330	220	82	18	3	7
Tennessee	357	98	259	145	85	9	1	19
Alabama	266	78	188	130	40	12	2	4
Mississippi	159	55	104	73	22	7	--------	2
WEST SOUTH CENTRAL:								
Arkansas	264	85	179	96	69	7	1	6
Louisiana	249	80	169	119	32	9	2	7
Oklahoma	164	40	124	50	62	5	3	4
Texas	582	173	409	253	117	24	11	4
MOUNTAIN:								
Montana	49	23	26	15	9	2	--------	--------
Idaho	52	23	29	17	10	2	--------	--------
Wyoming	3	--------	3	--------	3	--------	--------	--------
Colorado	129	34	95	46	41	6	2	--------
New Mexico	50	14	36	28	7	--------	--------	1
Arizona	24	10	14	12	1	--------	--------	1
Utah	92	23	69	35	28	4	--------	2
Nevada	6	--------	6	1	4	1	--------	--------
PACIFIC:								
Washington	216	66	150	67	67	12	3	1
Oregon	123	28	95	36	51	4	3	1
California	380	95	285	121	138	18	5	3

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[2] Includes 187 females whose age was not reported.

TABLE 97.—DEAF-MUTES 5 YEARS OF AGE AND OVER FOR WHOM SPECIAL
STATES:

	DIVISION AND STATE	Aggregate[1]	HAVING ATTENDED SCHOOL						
			Total	Having attended special school for the deaf					
				Having attended other schools also					
				Total	Common school only	High school or academy	University or college	Schools of miscellaneous character	Schools of character not reported
1	UNITED STATES	34, 726	30, 565	4, 036	3, 015	380	138	344	159
	NEW ENGLAND:								
2	Maine	353	306	38	36	2	--------	--------	--------
3	New Hampshire	131	110	17	13	2	--------	1	1
4	Vermont	123	104	20	17	--------	1	1	1
5	Massachusetts	1, 368	1, 257	224	171	10	4	30	9
6	Rhode Island	166	145	31	27	1	--------	2	1
7	Connecticut	496	463	81	72	3	1	5	--------
	MIDDLE ATLANTIC:								
8	New York	3, 358	3, 121	401	301	27	9	33	31
9	New Jersey	744	672	86	77	3	2	2	2
10	Pennsylvania	2, 794	2, 466	349	270	27	10	34	8
	EAST NORTH CENTRAL:								
11	Ohio	2, 145	1, 885	292	215	43	17	15	2
12	Indiana	1, 260	1, 142	145	113	9	7	6	10
13	Illinois	2, 496	2, 260	373	286	33	5	40	9
14	Michigan	1, 521	1, 378	219	159	31	8	17	4
15	Wisconsin	1, 378	1, 259	213	167	14	4	18	10
	WEST NORTH CENTRAL:								
16	Minnesota	837	766	103	76	9	8	9	1
17	Iowa	844	782	113	91	5	2	7	8
18	Missouri	1, 298	1, 145	139	96	7	4	19	13
19	North Dakota	206	182	28	25	2	--------	1	--------
20	South Dakota	226	196	30	27	1	1	--------	1
21	Nebraska	471	446	62	44	5	5	6	2
22	Kansas	716	661	70	56	6	3	2	3
	SOUTH ATLANTIC:								
23	Delaware	27	21	--------	--------	--------	--------	--------	--------
24	Maryland	519	454	44	34	3	1	4	2
25	District of Columbia	258	246	75	57	7	7	3	1
26	Virginia	745	532	41	27	6	1	5	2
27	West Virginia	478	408	41	35	1	--------	4	1
28	North Carolina	836	701	28	14	8	3	--------	3
29	South Carolina	274	197	15	5	7	--------	2	1
30	Georgia	667	480	39	28	5	1	5	--------
31	Florida	261	224	16	13	2	1	--------	--------
	EAST SOUTH CENTRAL:								
32	Kentucky	938	775	61	44	7	3	2	5
33	Tennessee	754	620	43	18	8	2	10	5
34	Alabama	541	431	29	13	7	5	1	3
35	Mississippi	338	244	23	14	5	--------	4	--------
	WEST SOUTH CENTRAL:								
36	Arkansas	543	472	38	27	6	1	1	3
37	Louisiana	520	396	33	19	8	1	5	--------
38	Oklahoma	362	298	33	23	3	--------	3	4
39	Texas	1, 231	1, 031	95	61	12	6	13	3
	MOUNTAIN:								
40	Montana	127	108	13	11	1	--------	--------	1
41	Idaho	101	91	14	11	--------	1	1	1
42	Wyoming	18	16	6	3	1	2	--------	--------
43	Colorado	297	271	36	26	7	--------	3	--------
44	New Mexico	101	66	5	3	--------	--------	1	1
45	Arizona	62	55	3	3	--------	--------	--------	--------
46	Utah	200	174	27	18	2	4	2	1
47	Nevada	13	13	2	1	1	--------	--------	--------
	PACIFIC:								
48	Washington	468	445	70	52	8	1	7	2
49	Oregon	264	241	31	20	3	1	6	1
50	California	852	809	141	96	22	6	14	3

[1] Includes 365 persons whose age at enumeration was not reported.

SCHEDULES WERE RETURNED, CLASSIFIED ACCORDING TO EDUCATION, BY 1920

HAVING ATTENDED SCHOOL—continued									NOT HAVING ATTENDED SCHOOL			Not reporting as to education	
Having attended special school for the deaf—Cont.			Not having attended special school for the deaf						Total	Reporting instruction at home	Reporting no instruction		
Having attended no other school			Total	Having attended—									
Total	Reporting no other instruction	Reporting instruction at home		Common school only	High school or academy	University or college	Schools of miscellaneous character	Schools of character not reported					
25,831	25,484	347	698	511	44	12	61	70	3,917	163	3,754	244	1
247	241	6	21	15	2	------	1	3	45	------	45	2	2
88	88	------	5	5	------	------	------	------	20	1	19	1	3
77	74	3	7	6	------	------	1	------	17	4	13	2	4
1,016	999	17	17	13	1	------	3	------	96	5	91	15	5
113	111	2	1	1	------	------	------	------	17	------	17	4	6
375	366	9	7	4	2	------	------	1	29	1	28	4	7
2,690	2,657	33	30	17	5	------	4	4	218	10	208	19	8
565	555	10	21	18	------	------	2	1	62	8	54	10	9
2,073	2,055	18	44	34	1	2	1	6	309	10	299	19	10
1,541	1,520	21	52	45	5	------	1	1	252	9	243	8	11
973	965	8	24	19	3	------	------	2	106	8	98	12	12
1,842	1,810	32	45	38	2	------	4	1	220	7	213	16	13
1,125	1,114	11	34	30	2	1	------	1	137	5	132	6	14
1,007	998	9	39	26	1	1	3	8	108	4	104	11	15
648	633	15	15	14	------	------	1	------	66	------	66	5	16
644	642	2	25	10	------	------	2	13	55	3	52	7	17
968	951	17	38	25	------	3	10	------	149	1	148	4	18
150	148	2	4	4	------	------	------	------	23	1	22	1	19
156	154	2	10	8	------	------	2	------	30	------	30	------	20
373	373	------	11	3	1	1	5	1	25	------	25	------	21
582	577	5	9	8	------	------	------	1	54	2	52	1	22
20	20	------	1	1	------	------	------	------	6	------	6	------	23
404	398	6	6	4	------	------	1	1	61	6	55	4	24
169	164	5	2	1	1	------	------	------	10	------	10	2	25
467	458	9	24	16	2	------	4	2	211	7	204	2	26
353	349	4	14	12	------	------	2	------	69	4	65	1	27
665	662	3	8	1	1	1	------	5	128	1	127	7	28
173	170	3	9	6	1	------	1	1	72	4	68	5	29
425	421	4	16	12	2	------	------	2	183	2	181	4	30
204	198	6	4	3	1	------	------	------	35	2	33	2	31
691	688	3	23	15	1	1	4	2	148	8	140	15	32
558	550	8	19	17	1	------	------	1	124	7	117	10	33
400	390	10	2	2	------	------	------	------	109	5	104	1	34
205	201	4	16	11	2	------	1	2	91	3	88	3	35
429	421	8	5	3	------	------	1	1	68	3	65	3	36
356	348	8	7	2	------	1	2	2	121	7	114	3	37
254	250	4	11	10	------	------	------	1	61	4	57	3	38
909	902	7	27	18	2	------	3	4	191	11	180	9	39
91	90	1	4	3	------	------	------	1	15	1	14	4	40
76	76	------	1	1	------	------	------	------	9	------	9	1	41
9	9	------	1	1	------	------	------	------	2	------	2	------	42
230	227	3	5	4	1	------	------	------	25	1	24	1	43
58	56	2	3	3	------	------	------	------	35	1	34	------	44
51	51	------	1	1	------	------	------	------	7	------	7	------	45
143	139	4	4	3	------	------	------	1	24	2	22	2	46
9	9	------	2	2	------	------	------	------	------	------	------	------	47
368	360	8	7	5	1	------	------	1	19	1	18	4	48
208	204	4	2	2	------	------	------	------	18	2	16	5	49
653	642	11	15	9	3	1	2	------	37	2	35	6	50

TABLE 98.—DEAF-MUTES 10 YEARS OF AGE AND OVER FOR WHOM SPECIAL SCHEDULES WERE RETURNED, CLASSIFIED ACCORDING TO SEX, RACE, NATIVITY, AND OCCUPATION, FOR THE UNITED STATES: 1920

OCCUPATION	MALE					FEMALE				
	All classes [1]	White		Colored		All classes [3]	White		Colored	
		Native	Foreign-born	Negro	Other colored [2]		Native	Foreign-born	Negro	Other colored [4]
Total	17,176	14,958	1,456	704	58	14,054	12,270	1,100	640	44
Not gainfully employed	6,980	6,212	427	322	19	11,572	10,265	830	444	33
Gainfully employed	10,196	8,746	1,029	382	39	2,482	2,005	270	196	11
Agriculture, forestry, and animal husbandry	2,664	2,315	151	175	23	352	255	26	67	4
Farmers, stock raisers, gardeners, florists, fruit growers, etc	1,958	1,732	113	96	17	225	176	18	29	2
Agricultural laborers	649	535	37	73	4	113	65	8	38	2
Fishermen and oystermen	12	9	----	2	1	1	1	----	----	----
Foresters, lumbermen, raftsmen, and woodchoppers	26	21	----	4	1	----	----	----	----	----
All other	19	18	1	----	----	13	13	----	----	----
Extraction of minerals	64	56	7	1	----	----	----	----	----	----
Coal mine operatives	21	17	4	----	----	----	----	----	----	----
Operatives in other and not specified mines	29	25	3	1	----	----	----	----	----	----
Quarry operatives	6	6	----	----	----	----	----	----	----	----
All other	8	8	----	----	----	----	----	----	----	----
Manufacturing and mechanical industries	6,180	5,284	757	130	9	1,089	921	141	24	3
Bakers	91	81	7	3	----	6	6	----	----	----
Blacksmiths, forgemen, and hammermen	41	33	5	3	----	----	----	----	----	----
Brick and stone masons	23	22	1	----	----	----	----	----	----	----
Carpenters and cabinetmakers	438	374	58	4	2	----	----	----	----	----
Compositors, engravers, lithographers, pressmen, etc	507	454	52	1	----	14	13	----	1	----
Coopers	23	21	1	1	----	----	----	----	----	----
Dressmakers and seamstresses (not in factory)	----	----	----	----	----	293	248	34	10	1
Electricians	27	26	1	----	----	----	----	----	----	----
Engineers (stationary) and cranemen	11	10	1	----	----	----	----	----	----	----
Filers, grinders, buffers, and polishers (metal)	39	36	2	1	----	2	2	----	----	----
Firemen (stationary), furnacemen, smeltermen, heaters, pourers, etc	33	27	4	2	----	----	----	----	----	----
Jewelers, watchmakers, goldsmiths, and silversmiths	31	27	4	----	----	4	4	----	----	----
Laborers—										
Building, general, and not specified	755	612	88	51	4	27	19	2	6	----
Chemical and allied industries	8	6	1	1	----	----	----	----	----	----
Clay, glass, and stone industries	24	21	2	1	----	1	1	----	----	----
Food industries	39	36	2	1	----	8	8	----	----	----
Lumber and furniture industries	58	50	4	4	----	3	3	----	----	----
Metal industries	101	91	8	2	----	6	6	----	----	----
Other manufacturing industries	177	160	12	5	----	34	30	3	1	----
Machinists, millwrights, and toolmakers	229	200	29	----	----	----	----	----	----	----
Manufacturers, officials, managers, and contractors	27	22	4	1	----	----	----	----	----	----
Mechanics (not otherwise specified)	173	154	18	1	----	5	5	----	----	----
Milliners	----	----	----	----	----	13	12	1	----	----
Painters, glaziers, varnishers, enamelers, etc	228	204	22	2	----	1	1	----	----	----
Plasterers and cement finishers	10	7	2	1	----	----	----	----	----	----
Plumbers and gas and steam fitters	12	8	4	----	----	----	----	----	----	----
Semiskilled operatives—										
Chemical and allied industries	16	15	1	----	----	6	6	----	----	----
Cigar and tobacco factories	78	62	14	2	----	40	28	11	1	----
Clay, glass, and stone industries	61	54	5	2	----	4	4	----	----	----
Clothing industries	94	72	19	2	1	115	94	21	----	----
Food industries	72	62	7	3	----	26	26	----	----	----

See footnotes at end of table.

TABLE 98.—DEAF-MUTES 10 YEARS OF AGE AND OVER FOR WHOM SPECIAL SCHEDULES WERE RETURNED, CLASSIFIED ACCORDING TO SEX, RACE, NATIVITY, AND OCCUPATION, FOR THE UNITED STATES: 1920—Continued

OCCUPATION	MALE					FEMALE				
	All classes[1]	White		Colored		All classes[3]	White		Colored	
		Native	Foreign-born	Negro	Other colored[2]		Native	Foreign-born	Negro	Other colored[4]
Manufacturing and mechanical industries—Continued.										
Semiskilled operatives—Continued.										
Iron and steel industries—										
Blast furnaces and steel rolling mills	28	21	7	-----	----	-----	-----	-----	-----	----
Automobile, implement, and wagon factories, car shops, shipyards	159	143	15	1	----	2	2	-----	-----	----
Other and not specified iron and steel factories	120	110	9	1	----	6	6	-----	-----	----
Other metal industries	42	36	6	-----	----	8	6	1	1	----
Lumber and furniture industries—										
Furniture, piano, and organ factories	89	77	9	3	----	8	7	1	-----	----
Saw, planing, and other woodworking mills	137	121	11	5	----	9	8	1	-----	----
Printing and publishing	163	142	20	1	----	39	35	4	-----	----
Shoe factories	144	129	14	1	----	34	31	3	-----	----
Textile industries—										
Cotton mills	32	28	3	1	----	23	20	2	1	----
Woolen mills	16	12	4	-----	----	6	4	2	-----	----
Other textile mills	131	107	24	-----	----	83	64	18	1	----
Other industries	984	831	134	17	2	216	184	28	2	2
Shoemakers and cobblers (not in factory)	436	388	43	5	----	9	8	1	-----	----
Skilled occupations (not otherwise specified)	45	40	5	-----	----	3	2	1	-----	----
Stonecutters	14	10	4	-----	----	-----	-----	-----	-----	----
Tailors and tailoresses	173	105	67	1	----	21	15	6	-----	----
All other	41	37	4	-----	----	14	13	1	-----	----
Transportation	139	116	12	9	2	4	4	-----	-----	----
Water transportation:										
Boatmen, canal men, sailors, and deck hands	2	1	-----	1	----	-----	-----	-----	-----	----
Other occupations	6	6	-----	-----	----	-----	-----	-----	-----	----
Road and street transportation:										
Carriage drivers, chauffeurs, draymen and teamsters	56	49	3	3	1	-----	-----	-----	-----	----
Hostlers and laborers, garage, road, and street	29	22	5	1	1	-----	-----	-----	-----	----
Other occupations	1	1	-----	-----	----	-----	-----	-----	-----	----
Railroad transportation:										
Laborers, steam and street railroad	19	15	2	2	----	-----	-----	-----	-----	----
Locomotive engineers	2	1	-----	1	----	-----	-----	-----	-----	----
Other occupations	4	4	-----	-----	----	1	1	-----	-----	----
Express, post, telegraph and telephone, and other transportation:										
Clerks and kindred workers	11	10	-----	1	----	3	3	-----	-----	----
Other occupations	8	6	2	-----	----	-----	-----	-----	-----	----
Proprietors in transportation industry	1	1	-----	-----	----	-----	-----	-----	-----	----
Trade	203	176	19	7	1	38	32	6	-----	----
Bankers	4	4	-----	-----	----	-----	-----	-----	-----	----
Clerks in stores and salesmen and saleswomen	36	33	2	1	----	17	15	2	-----	----
Commercial travelers	3	3	-----	-----	----	-----	-----	-----	-----	----
Deliverymen	2	1	1	-----	----	-----	-----	-----	-----	----
Hucksters and peddlers	15	11	3	-----	1	5	4	1	-----	----
Laborers in coal and lumber yards, warehouses, stores, etc	34	29	1	4	----	-----	-----	-----	-----	----
Real estate and insurance agents and officials	11	10	1	-----	----	-----	-----	-----	-----	----
Wholesale and retail dealers (except hucksters and peddlers)	71	61	9	1	----	6	6	-----	-----	----
All other	27	24	2	1	----	10	7	3	-----	----

See footnotes at end of table.

TABLE 98.—DEAF-MUTES 10 YEARS OF AGE AND OVER FOR WHOM SPECIAL SCHEDULES WERE RETURNED, CLASSIFIED ACCORDING TO SEX, RACE, NATIVITY, AND OCCUPATION, FOR THE UNITED STATES: 1920—Continued

OCCUPATION	MALE					FEMALE				
	All classes[1]	White		Colored		All classes[3]	White		Colored	
		Native	Foreign-born	Negro	Other colored[2]		Native	Foreign-born	Negro	Other colored[4]
Public service	41	36	4	1	----	4	4	----	----	----
Firemen, city fire department	1	1	----	----	----	----	----	----	----	----
Policemen, marshals, sheriffs, detectives, etc	1	1	----	----	----	----	----	----	----	----
Officials and inspectors, city, county, State, and United States	6	5	1	----	----	3	3	----	----	----
Soldiers, sailors, and marines	2	2	----	----	----	----	----	----	----	----
Laborers	17	14	2	1	----	----	----	----	----	----
All other	14	13	1	----	----	1	1	----	----	----
Professional service	222	204	15	2	1	68	63	5	----	----
Actors and showmen	5	5	----	----	----	1	1	----	----	----
Aeronauts, architects, chemists, designers, draftsmen, inventors, and technical engineers	45	42	3	----	----	----	----	----	----	----
Artists, sculptors, and teachers of art	17	14	2	----	1	6	4	2	----	----
Authors, editors, reporters, and librarians	9	9	----	----	----	3	3	----	----	----
Clergymen	11	11	----	----	----	----	----	----	----	----
Dentists, osteopaths, physicians and surgeons, trained nurses, and veterinary surgeons	8	7	1	----	----	2	2	----	----	----
Musicians and teachers of music	1	1	----	----	----	1	1	----	----	----
Photographers	17	14	3	----	----	2	2	----	----	----
Teaching professions[5]	86	81	3	2	----	40	39	1	----	----
Other professional occupations	14	12	2	----	----	10	8	2	----	----
Semiprofessional occupations	9	8	1	----	----	3	3	----	----	----
Domestic and personal service	347	265	36	45	1	725	552	73	96	4
Barbers and hairdressers	88	78	7	3	----	1	1	----	----	----
Cooks	7	4	----	3	----	29	17	1	11	----
Elevator operators and porters	26	17	3	6	----	1	----	1	----	----
Janitors and sextons	76	67	5	4	----	6	3	2	1	----
Laundry operatives and laundresses (not in laundry)	25	20	4	1	----	154	86	16	51	1
Practical nurses and midwives	----	----	----	----	----	3	1	----	2	----
Proprietors and managers[6]	3	3	----	----	----	8	6	1	1	----
Waiters and servants (other than cooks)	72	44	7	21	----	198	156	25	15	2
All other	50	32	10	7	1	325	282	27	15	1
Clerical occupations	182	165	16	1	----	53	51	2	----	----
Bookkeepers, cashiers, and accountants	25	24	1	----	----	5	5	----	----	----
Clerks (except clerks in stores) and stenographers	124	109	14	1	----	41	39	2	----	----
All other	33	32	1	----	----	7	7	----	----	----
Unclassifiable as to occupation	154	129	12	11	2	149	123	17	9	----

[1] Includes 178 males whose age was not reported.
[2] Includes 52 Indians and 6 "Other colored," chiefly Chinese and Japanese.
[3] Includes 187 females whose age was not reported.
[4] Includes 37 Indians and 7 "Other colored," chiefly Chinese and Japanese.
[5] School-teachers, college presidents, and professors.
[6] In boarding houses, hotels, laundries, restaurants, etc.

TABLE 99.—DEAF-MUTES FOR WHOM SPECIAL SCHEDULES WERE RETURNED, CLASSIFIED ACCORDING TO REPORTED CAUSE OF DEAFNESS, BY DIVISIONS AND STATES: 1920

REPORTED CAUSE OF DEAFNESS	United States	NEW ENGLAND DIVISION						MIDDLE ATLANTIC DIVISION			EAST NORTH CENTRAL DIVISION				
		Maine	New Hampshire	Vermont	Massachusetts	Rhode Island	Connecticut	New York	New Jersey	Pennsylvania	Ohio	Indiana	Illinois	Michigan	Wisconsin
All causes	35,026	354	131	124	1,377	166	503	3,379	751	2,822	2,161	1,266	2,517	1,536	1,394
Causes affecting the external ear	132	3			4	1	3	7	1	5	9	6	5	3	6
Causes affecting the middle ear	8,290	100	31	33	355	44	127	749	188	729	588	305	545	397	370
Causes producing suppurative condition	6,682	78	28	29	301	40	105	678	165	635	479	244	448	320	311
Scarlet fever	3,346	45	19	13	173	22	59	440	95	368	255	115	218	170	182
Measles	1,083	16	5	2	34	5	16	72	30	101	82	53	99	62	58
Disease of the ear	464	4	1	3	18	3	3	13	5	46	29	25	22	17	9
Abscess in the head	446	7	1	1	4		1	4	1	16	26	9	25	9	3
Diphtheria	319				17	1	1	39	8	27	30	13	20	14	13
Pneumonia	295	3	1	5	13	2	6	34	7	27	15	8	24	21	9
Influenza (grippe)	151				4	3	3	8	2	8	13	6	3	3	7
All other	578	3	1	5	38	4	16	68	17	42	29	15	37	24	30
Causes not producing suppurative condition	1,589	22	3	4	53	4	21	69	22	94	109	59	97	77	58
Whooping cough	636	5	2	1	23	3	9	36	9	39	39	23	35	30	15
Catarrh	273	2			5			3	3	16	24	14	21	13	11
Colds	263	2	1	2	8	1	4	21	7	16	23	3	20	19	7
All other	417	13		1	17		8	9	3	23	23	19	21	15	25
All other causes affecting the middle ear	19				1		1	2	1			2			1
Causes affecting the internal ear	6,429	46	29	5	224	37	109	687	118	530	460	355	589	317	224
Causes affecting the labyrinth	372		1		6	1	6	13	6	27	25	17	18	17	10
Malarial fever and quinine	162		1			1	2	4	1	19	9	9	9	4	1
Mumps	159				3		4	7	3	4	11	7	8	8	8
All other	51				3			2	2	4	5	1	1	5	1
Causes affecting the auditory nerve	5,976	45	27	5	215	35	100	663	109	498	433	336	565	297	214
Meningitis	3,237	27	17	2	134	14	60	383	63	251	184	175	281	146	63
Brain fever	1,314	5	5	1	35	6	14	154	19	117	147	115	139	76	79
Typhoid fever	642	3	1	1	20	5	14	45	6	65	59	22	63	40	37
Paralysis or infantile paralysis	236	2	3	1	9	8	7	14	7	16	10	6	15	8	15
Convulsions	230	3			9	2	4	48	8	32	15	8	24	9	9
All other	317	5	1		8		1	19	6	17	18	10	43	18	11
All other causes affecting the internal ear	81	1	1		3	1	3	11	3	5	2	2	6	3	
Combination of different classes of causes	268	1	1	2	12	2	1	16	3	22	25	7	27	25	6
Unclassifiable causes	17,418	187	65	72	650	76	220	1,677	390	1,367	963	502	1,199	689	664
Congenital	13,513	140	42	57	498	52	169	1,257	267	1,057	718	377	874	521	480
Falls and blows	1,177	12	6	3	55	8	17	192	54	115	74	32	91	42	51
Accident	162	2	1		8	1	3	17	2	23	11	3	14	12	7
All other	2,566	33	16	12	89	15	31	211	67	172	160	90	220	114	126
Cause unknown or not reported	2,489	17	5	12	132	6	43	243	51	169	116	91	152	105	124

TABLE 99.—DEAF-MUTES FOR WHOM SPECIAL SCHEDULES WERE RETURNED, CLASSIFIED ACCORDING TO REPORTED CAUSE OF DEAFNESS, BY DIVISIONS AND STATES: 1920—Continued

REPORTED CAUSE OF DEAFNESS	WEST NORTH CENTRAL DIVISION							SOUTH ATLANTIC DIVISION								
	Minnesota	Iowa	Missouri	North Dakota	South Dakota	Nebraska	Kansas	Delaware	Maryland	Dist. of Columbia	Virginia	West Virginia	North Carolina	South Carolina	Georgia	Florida
All causes	846	856	1,310	207	231	472	716	27	524	259	752	485	841	277	675	262
Causes affecting the external ear	3	3	5	1	1	------	3	------	1	1	6	3	1	4	3	------
Causes affecting the middle ear	247	245	278	57	57	135	203	4	116	58	166	99	148	46	140	28
Causes producing suppurative condition	207	184	219	36	51	108	156	4	100	42	124	81	109	30	84	20
Scarlet fever	116	104	77	15	23	55	58	4	50	27	42	43	32	4	20	7
Measles	43	25	37	10	13	15	33	------	22	7	23	11	17	2	12	2
Disease of the ear	8	12	30	3	5	6	16	------	4	1	10	6	13	7	7	2
Abscess in the head	1	8	26	------	1	6	12	------	7	1	21	14	18	9	24	4
Diphtheria	10	5	14	------	1	7	8	------	6	1	8	2	6	2	7	------
Pneumonia	7	12	6	1	5	2	7	------	2	------	9	3	8	3	6	1
Influenza (grippe)	4	8	8	1	------	5	7	------	1	1	3	------	2	1	3	2
All other	18	10	21	6	3	12	15	------	8	4	8	2	13	2	5	2
Causes not producing suppurative condition	39	61	59	20	6	27	46	------	16	16	41	18	38	16	56	8
Whooping cough	21	26	27	10	2	13	18	------	7	6	21	9	15	2	17	3
Catarrh	2	10	7	2	1	2	10	------	------	4	5	2	7	5	12	2
Colds	10	7	10	4	1	8	5	------	3	3	5	2	4	5	12	1
All other	6	18	15	4	2	4	13	------	6	3	10	5	12	4	15	2
All other causes affecting the middle ear	1	------	------	1	------	------	1	------	------	------	1	------	1	------	------	------
Causes affecting the internal ear	181	178	332	27	41	90	152	4	70	55	77	69	54	24	78	17
Causes affecting the labyrinth	11	9	17	------	------	------	15	------	3	4	9	3	7	6	9	4
Malarial fever and quinine	2	------	8	------	------	------	6	------	1	------	3	1	6	3	4	2
Mumps	4	9	7	------	------	------	7	------	2	4	6	2	1	3	2	------
All other	5	------	2	------	------	------	2	------	------	------	------	------	------	------	3	2
Causes affecting the auditory nerve	164	164	314	27	41	88	136	4	65	50	66	65	46	18	68	13
Meningitis	67	103	206	10	22	53	86	3	26	40	37	35	26	9	50	7
Brain fever	49	36	41	7	9	17	25	1	20	6	11	12	2	3	4	------
Typhoid fever	23	10	32	3	3	8	16	------	11	2	7	5	9	1	6	2
Paralysis or infantile paralysis	13	8	5	4	------	3	4	------	1	1	4	5	3	1	3	3
Convulsions	5	2	6	1	3	1	------	------	5	------	3	2	3	1	1	------
All other	7	5	24	2	4	6	5	------	2	1	4	6	3	3	4	1
All other causes affecting the internal ear	6	5	1	------	------	2	1	------	2	1	2	1	1	------	1	------
Combination of different classes of causes	3	4	19	1	2	5	7	------	5	1	1	6	7	------	9	1
Unclassifiable causes	363	380	600	103	121	217	313	18	286	112	434	249	561	191	393	204
Congenital	259	271	446	70	73	172	224	14	232	82	379	214	516	174	333	197
Falls and blows	22	33	37	13	8	6	18	2	27	12	11	8	7	2	9	4
Accident	5	4	4	------	4	3	1	------	1	1	1	------	2	------	4	------
All other	77	72	113	20	36	36	70	2	26	17	43	27	36	15	47	3
Cause unknown or not reported	49	46	76	18	9	25	38	1	46	32	68	59	70	12	52	12

REPORTED CAUSE OF DEAFNESS	EAST SOUTH CENTRAL DIVISION				WEST SOUTH CENTRAL DIVISION				MOUNTAIN DIVISION								PACIFIC DIVISION		
	Kentucky	Tennessee	Alabama	Mississippi	Arkansas	Louisiana	Oklahoma	Texas	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Washington	Oregon	California
All causes	949	765	548	343	550	523	365	1,242	128	102	18	299	102	62	200	13	471	265	860
Causes affecting the external ear	4	6	4	2	4	2	4	7	4	--	--	2	--	1	1	--	--	--	3
Causes affecting the middle ear	201	130	117	72	108	47	89	257	36	34	6	90	18	15	63	2	108	63	246
Causes producing suppurative condition	143	95	87	55	75	39	60	183	28	28	6	66	17	8	49	1	81	48	197
Scarlet fever	60	38	21	10	11	12	23	53	17	14	1	34	6	5	30	--	33	26	101
Measles	14	15	11	4	14	7	9	17	1	5	4	6	1	--	8	1	18	8	33
Disease of the ear	13	11	15	17	7	4	6	25	4	2	--	4	3	1	1	--	9	3	11
Abscess in the head	28	15	28	15	26	7	9	41	--	2	1	4	--	1	1	--	2	1	6
Diphtheria	11	2	2	1	2	2	2	12	--	1	--	5	2	1	3	--	2	2	9
Pneumonia	6	3	4	2	3	2	2	6	1	1	--	3	--	--	--	--	2	2	11
Influenza (grippe)	2	3	3	1	2	1	2	8	4	--	--	1	--	--	1	--	4	4	9
All other	9	8	3	5	10	4	7	21	1	3	--	9	5	--	5	--	11	2	17
Causes not producing suppurative condition	58	34	28	17	32	8	29	74	8	6	--	24	1	7	13	1	26	15	49
Whooping cough	23	20	10	7	10	2	8	24	6	2	--	13	--	3	10	--	12	4	16
Catarrh	6	4	5	5	12	3	10	20	--	--	--	3	--	2	2	--	3	4	11
Colds	5	--	3	1	--	1	5	8	1	--	--	2	--	--	--	--	1	6	16
All other	24	10	10	4	10	2	6	22	1	4	--	6	1	2	1	1	10	1	6
All other causes affecting the middle ear	--	1	2	--	1	--	--	--	--	--	--	--	--	--	1	--	1	--	--
Causes affecting the internal ear	140	74	67	25	94	55	80	177	20	28	6	69	3	8	45	1	115	67	176
Causes affecting the labyrinth	8	12	17	6	18	6	11	27	1	3	--	2	--	--	2	--	6	2	7
Malarial fever and quinine	3	7	8	3	13	4	5	17	--	--	--	1	--	--	--	--	1	1	3
Mumps	4	4	6	3	5	1	5	7	1	1	--	1	--	--	2	--	4	1	4
All other	1	1	3	--	--	1	1	3	--	2	--	--	--	--	--	--	1	--	--
Causes affecting the auditory nerve	131	60	49	19	75	49	69	145	18	25	6	67	3	8	43	1	106	64	167
Meningitis	57	36	32	9	52	26	44	99	10	13	5	45	2	6	28	1	67	37	88
Brain fever	31	10	4	2	6	5	8	4	2	4	1	12	--	1	5	--	15	13	36
Typhoid fever	16	6	--	4	4	14	6	22	1	3	--	3	1	1	1	--	10	6	25
Paralysis or infantile paralysis	8	2	5	1	2	1	6	8	2	1	--	3	--	--	2	--	6	3	7
Convulsions	3	--	1	--	--	--	1	4	2	2	--	1	--	--	1	--	3	2	6
All other	16	6	7	3	11	3	4	8	1	2	--	3	--	--	6	--	5	3	5
All other causes affecting the internal ear	1	2	1	--	1	--	--	5	1	--	--	--	--	--	--	--	3	1	2
Combination of different classes of causes	6	5	--	1	--	2	3	5	--	--	--	3	--	--	5	--	8	5	4
Unclassifiable causes	507	417	328	216	304	384	163	704	62	38	4	125	74	30	77	9	206	112	392
Congenital	433	361	291	198	236	334	117	561	40	27	4	103	54	24	63	7	150	76	269
Falls and blows	13	9	11	3	13	11	6	29	4	3	--	11	5	2	2	2	17	15	50
Accident	1	1	2	--	1	2	1	5	2	--	--	--	1	--	1	--	3	1	7
All other	60	46	24	15	54	37	39	109	16	8	--	11	14	4	11	--	36	20	66
Cause unknown or not reported	91	133	32	27	40	33	26	92	6	2	2	10	7	8	9	1	34	18	39

TABLE 100.—BLIND DEAF-MUTES, FOR WHOM SPECIAL SCHEDULES WERE RETURNED, FOR THE UNITED STATES: 1920

CLASSIFICATION	Number
Total	169
Male	79
Female	90
CLASSIFIED ACCORDING TO RACE AND NATIVITY	
White	159
Male	75
Female	84
Native	150
Male	69
Female	81
Foreign-born	9
Male	6
Female	3
Colored	10
Male	4
Female	6
Negro	9
Male	3
Female	6
Chinese	1
Male	1
CLASSIFIED ACCORDING TO AGE	
1 to 4 years	1
5 to 9 years	15
10 to 14 years	7
15 to 19 years	9
20 to 24 years	13
25 to 29 years	12
30 to 34 years	9
35 to 39 years	18
40 to 44 years	10
45 to 49 years	9
50 to 54 years	15
55 to 59 years	15
60 to 64 years	13
65 to 69 years	7
70 to 74 years	4
75 to 79 years	5
80 to 84 years	4
85 years and over	1
Age not reported	2
PERSONS 15 YEARS OF AGE AND OVER, CLASSIFIED ACCORDING TO MARITAL CONDITION	
Male	71
Single	55
Married	10
Widowed	2
Marital condition not reported	4
PERSONS 15 YEARS OF AGE AND OVER, CLASSIFIED ACCORDING TO MARITAL CONDITION—continued.	
Female	75
Single	63
Married	8
Widowed	1
Marital condition not reported	3
CLASSIFIED ACCORDING TO AGE WHEN DEFECT OCCURRED	
Blindness:	
Congenital	33
Not congenital [1]	136
Age when vision was lost—	
Less than 1 year	7
1 to 4 years	23
5 to 9 years	20
10 to 14 years	12
15 to 19 years	5
20 to 24 years	5
25 to 34 years	12
35 to 44 years	9
45 to 54 years	16
55 to 64 years	5
65 to 74 years	3
80 to 84 years	2
Age not definitely reported—	
Childhood	1
Prime	2
Middle	3
Age not reported	11
Deafness:	
Congenital	88
Not congenital [2]	81
Age when hearing was lost—	
Less than 1 year	7
1 year	8
2 years	9
3 years	3
4 years	7
5 years	10
6 years	3
7 years	5
8 years	7
9 years	3
10 years or over	7
Age not definitely reported—	
Infancy	1
Childhood	3
Age not reported	8

See footnotes at end of table.

TABLE 100.—BLIND DEAF-MUTES, FOR WHOM SPECIAL SCHEDULES WERE RETURNED, FOR THE UNITED STATES: 1920—Continued

CLASSIFICATION	Number
CLASSIFIED ACCORDING TO REPORTED CAUSE OF DEFECT	
Blindness:	
Disease	67
Glaucoma	2
Cataract	10
Corneal ulcer	2
Meningitis	16
Brain fever	4
Measles	3
Scarlet fever	8
Typhoid fever	2
Epilepsy	2
All other diseases	18
Accident (including sympathetic ophthalmia)	5
Combination of different classes of causes	3
Causes indefinitely or inaccurately reported	54
Congenital	30
Catarrh	3
All other	21
Cause unknown	40
Deafness:	
Disease	46
Scarlet fever	11
Measles	5
Typhoid fever	2
Meningitis	16
Brain fever	4
Abscess in the head	3
All other diseases	5
Injury from fall	2
Causes indefinitely or inaccurately reported	103
Congenital	88
Catarrh	3
All other	12
Cause unknown	18
CLASSIFIED ACCORDING TO RELATIONSHIP OF PARENTS	
Parents not first cousins	134
Parents first cousins	22
Not reporting as to relationship of parents	13

CLASSIFICATION	Number
CLASSIFIED ACCORDING TO STATUS OF PARENTS AS TO DEFECT	
Neither parent blind nor deaf	149
One parent only blind or deaf	5
One parent blind, the other neither blind nor deaf	2
Father blind	2
One parent deaf, the other neither blind nor deaf	3
Father deaf	1
Mother deaf	2
Not reporting as to vision or hearing of parents	14
Both parents deaf but neither blind	1
CLASSIFIED ACCORDING TO STATUS AS TO BROTHERS AND SISTERS	
Reporting no brothers or sisters	3
Reporting brothers or sisters	159
Reporting no blind or deaf brothers or sisters	105
Reporting blind or deaf brothers or sisters	52
Reporting blind brothers or sisters but no deaf brothers or sisters	6
Reporting deaf brothers or sisters but no blind brothers or sisters	23
Reporting both blind and deaf brothers or sisters	23
Not reporting as to vision or hearing of brothers or sisters	2
Not reporting as to existence of brothers or sisters	7
CLASSIFIED ACCORDING TO STATUS AS TO CHILDREN	
Reporting no children	147
Reporting children	21
Reporting no blind or deaf children	19
Reporting deaf children but no blind children	2
Not reporting as to existence of children	1

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[1] Includes those for whom the age when vision was lost was not reported.

[2] Includes those for whom the age when hearing was lost was not reported.

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